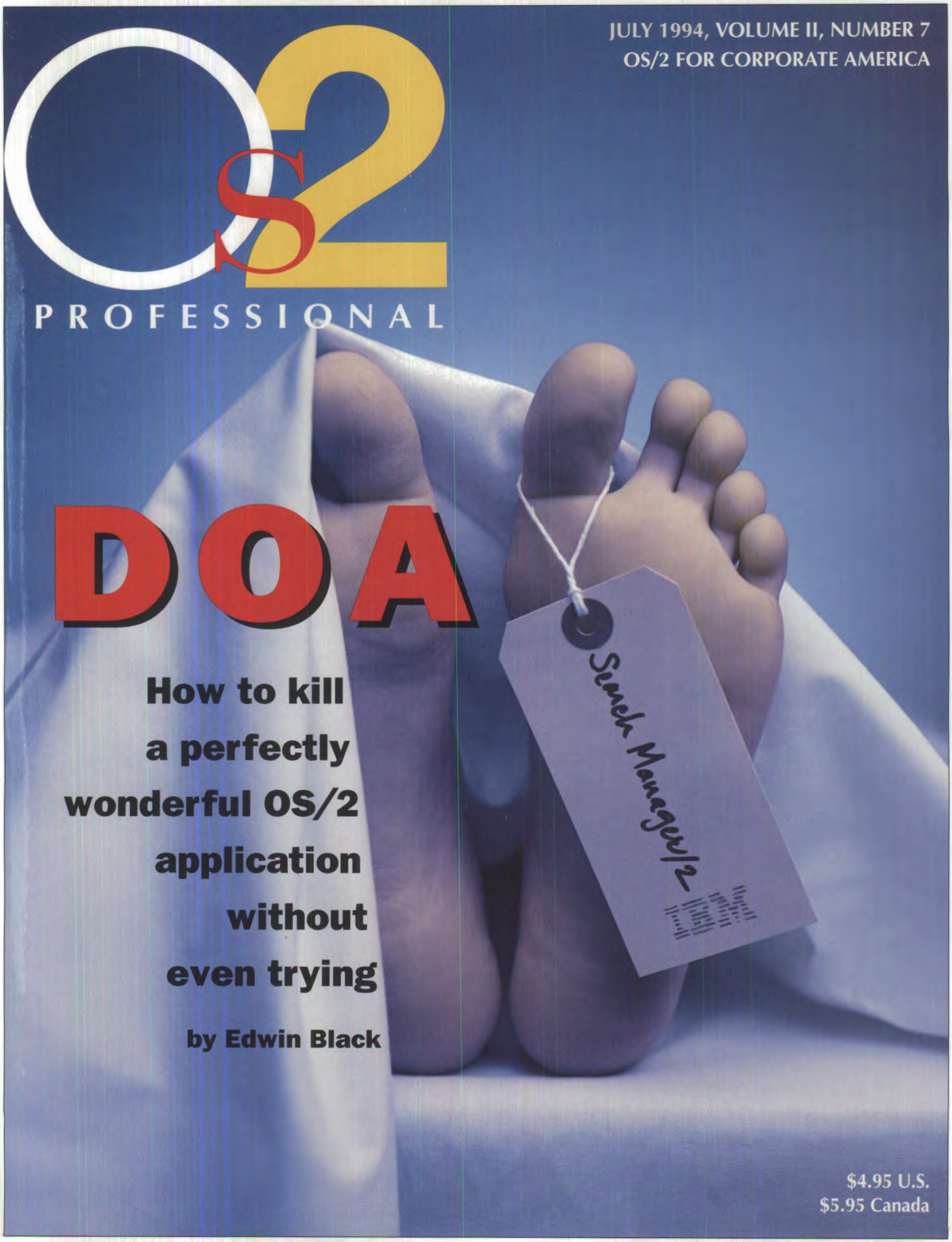
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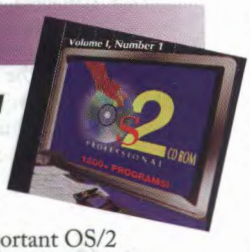
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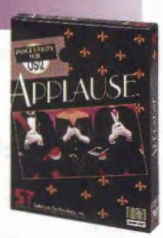
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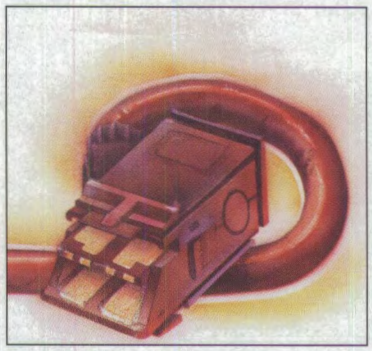
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BY WAYNE RASH JR.



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JULY 1994

THE MAGAZINE FOR OS/2 PROFESSIONALS

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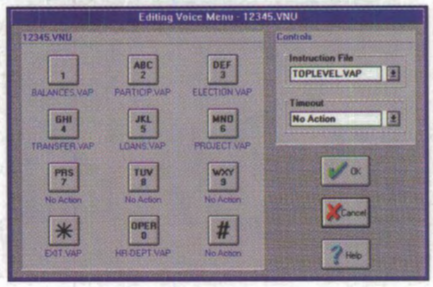
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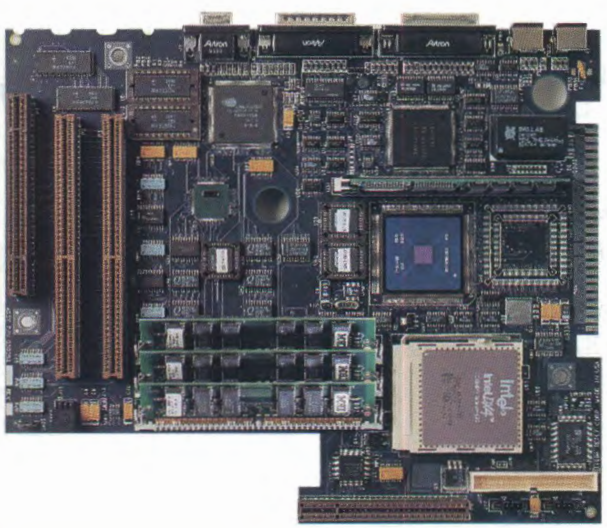
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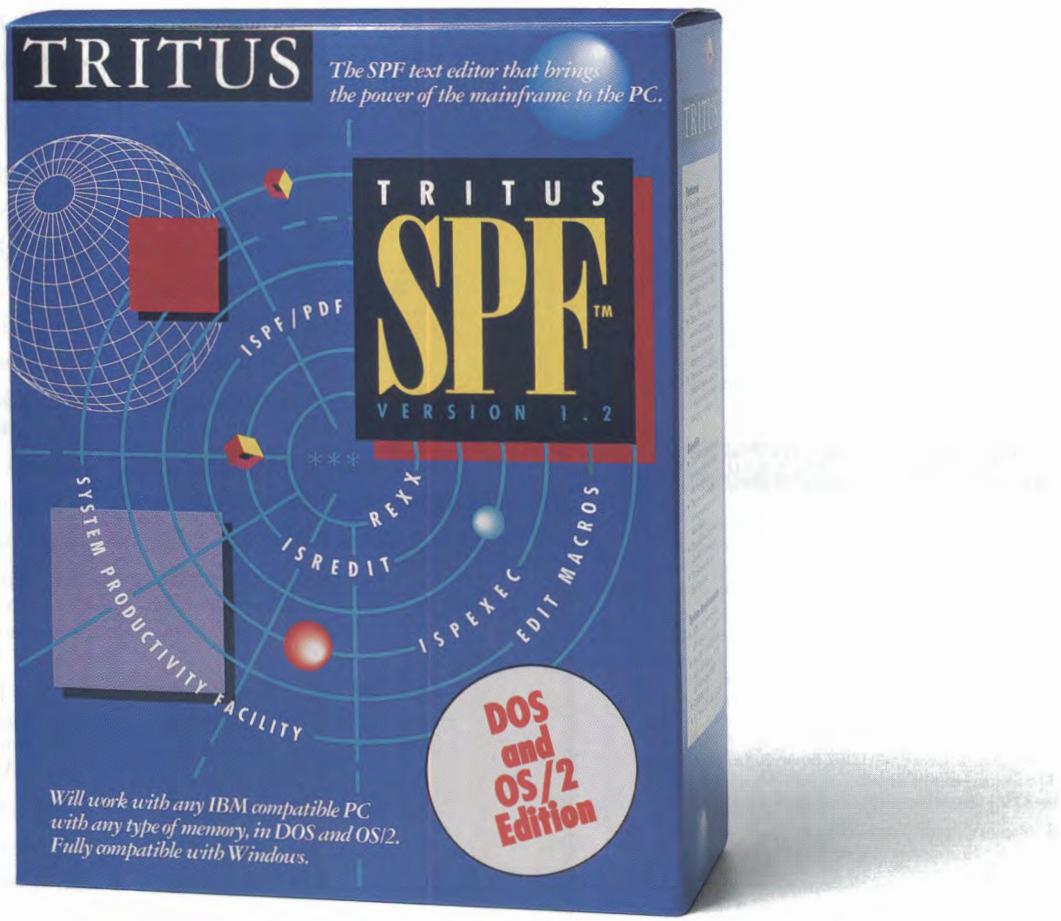
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PUBLISHER'S MEMO

Chicago Haze

There's nothing like vaporware. It configures perfectly, is fast, has a user interface that's attractive and is compatible with everything.

There's only one thing vaporware won't do: It won't make your company any money. No, make that two: it won't get you a promotion or a raise, either.

Courtesy of a massive PR campaign and the 800-pound bear that is Microsoft, Chicago is on everyone's lips. The next generation of Windows will multitask preemptively. It will support multithreading. It will unleash the power of 32 bit applications.

It may also be a scam. A hustle. It is Microsoft's exercise of its tremendous market power—power it earned fair and square through the building of its Windows installed base—to keep IS professionals from leaping off the Redmond bandwagon and deciding to go with the only existing, tested, functional, Windows application-compatible and PC-based 32-bit operating system, OS/2.



It must end. And so we say to Bill Gates: Open up the Chicago beta. Forget the NDAs (which we don't believe journalists should sign in any case). At this late stage in Chicago's development, no one's going to steal a key feature and beat Microsoft to the draw. And it is time for users who have been hyped to virtual death to be able to see what Windows 4.0 will be able to do and what it won't.

We all remember the days before NT released. The protracted fiction about what NT was and wasn't did real damage to the entire computing community. OS/2, of course, was compelled to fight against an imaginary adversary. Lo and behold, when resource-intensive NT finally shipped, it became clear to all that it was not a real competitor to OS/2. And Windows users were damaged as well because many of them falsely believed they were going to load NT on their 4mb and 8mb machines and start multitasking. They lost a year waiting for Gates' Godot.

Compare that to IBM's approach. OS/2 was put through the most extensive public beta gauntlet ever devised with more than 100,000 users. The pluses and negatives of the program were openly debated. Indeed, that was probably a major factor in OS/2's triumph over NT. OS/2 simply had more democratic input. The same approach is being taken with Warp, the new Personal OS/2.

It's not too late for Microsoft to do the same. This way the developer, end-user, and IS community could make a rational decision based on quality—not mystery.

Our cover story was really inspired by the question we asked in June: "Where are the OS/2 apps?" Tired of seeing IBM rationalize its failures, we decided to take matters into our own hands. For us the test case was SearchManager/2, a perfectly wonderful OS/2 application that IBM developed and is currently killing by neglect.

We renamed it Bloodhound, commissioned a small advertising agency to create an ad, and we intend to sell it through *OS/2 Express*. We feel that what's right with Bloodhound and wrong with its marketing and distribution is a microcosm of everything that is right and wrong with OS/2 and IBM.

Speaking of *OS/2 Express*, as we went to press, we shipped our 1,000th order of OS/2 software, books and accessories. That's after only three months of operation. *OS/2 Express* has become a wonderful experiment that has connected the app-hungry market with the market-hungry ISVs. For some developers, *OS/2 Express* constitutes one of their two or three top channels of distribution. Our in-magazine catalog is growing by about 10 percent each week and will soon become a breakeven operation. Express's first convention was PC Expo, and we hope to be attending many more. You can expect to see more books in *OS/2 Express*, and if we can cut through the mind-numbing paperwork and bureaucracy, you will see more OS/2-specific IBM solutions.

OS/2 Professional wishes its readers a great summer. While many of you are off on vacation, the editors are cooking up quite a surprise. We're going to spring it on you in the fall—hopefully in October. Enjoy the UVs. ◆

Edwin Black

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INPUT

Comments, criticisms, and observations

Premature preloading

You have been misinformed by IBM regarding the status of preloaded OS/2 on its products. In the past year, OS/2 has never been available on ThinkPads. I had to take DOS on a 720C and DOS/Windows on a Value Point 486-DX/33 "SI" model (compact desktop).

This sorry state of affairs has been the subject of numerous discussions on CompuServe forums (ThinkPad and OS/2User) for almost one full year. No IBM PC Company executive has ever responded to the numerous postings on this topic. Now, they apparently have taken the trouble to misinform you as well. I think it is a disgrace. It certainly is an insult to those of us supporting IBM against the Microsoft onslaught. When one thinks of the lost OS/2 installs over the past year, it can only confirm the fact that IBM has a long, long way to go to get its act together.

Stan Kritzik
via CompuServe

You are correct. OS/2 is not available as a preload option on any ThinkPad. IBM has, however, demonstrated the newest version of OS/2 for Windows on a ThinkPad running in 4mb of memory. Personal OS/2 or OS/2 "Lite," under whatever name is ultimately chosen, will likely be offered as an option, according to IBM spokesperson Mike Reiter.

Still ain't satisfied

I'd like a word with the people who are writing to this column whining, crying, moaning, and belittling OS/2. You are so unreasonable that nothing will ever satisfy you. You're the people who want everything done for you, for free, with no effort on your part, and have found that, like a spoiled child, if you cry loud enough and long enough, someone will usually give in to you.

You do the same thing to any software package. If it does more than one thing, it's too hard to learn. If it doesn't, it's too simple and won't do what you want. If it's upgraded, you want it for free, and still complain that it takes up too much disk space or memory. If it can be set to run on virtually any equipment, you whine that the installation program is too complicated. You ask, "Why should I have to know what kind of equipment I have? Let the computer figure it out." But if the software company attempts to charge you for the hours and hours of coding required to make the computer figure it out, you throw another tantrum.

I'm using OS/2 on my equipment, which is not true blue IBM, and I have had fewer problems than I have had with DOS. We'll not even mention Windows. Don't tell me it won't work. And quit slandering IBM simply because you lack the initiative to learn how to use it.

Bart Hollis
New Britain, Connecticut

Elbow to elbow

Compare one item in *OS/2 Professional's* profile of IBM's CEO [April] with that of *Business Week's* sketch of Microsoft's CEO—business travel. Bill Gates takes commercial airlines and flies coach. Mr. Gerstner flies on IBM's Learjet, IBM's Gulfstream, or even IBM's Sikorski chopper. Bill Gates sits, elbow to elbow, with people using his products on their laptops. Mr. Gerstner sits, a luxurious distance, from other IBM executives. Microsoft will win; IBM will lose. For this reason.

Robert Hinrichs
via the Internet

Wasting ink

I've read Jerry Pournelle over the years and have appreciated his views, experience, and skill in dealing with relatively difficult-to-use machines. His article in the April issue [View from Chaos Manor], however, makes me a good deal less interested in reading what he has to say in the future. The obvious conclusion to be gained from his article is that in his years of working with technology he has not progressed beyond the point where he can deal with a more sophisticated piece of technology. Perhaps he's just getting too old to pick up on the advantages of software that's not DOS-based; maybe he's using old experience on new problems.

It seemed that he was trying to say that any idiot off the street can run into non-trivial problems with OS/2, and that IBM should create a perfect software product. I think you're wasting perfectly good ink; I'd rather read an advertisement.

Dr. John J. Kozacik
Mariemont, Ohio

OS/2 for the PowerPC

I just read "Chip Off the Old Block" [Zachmann's View, May]. I agree with Mr. Zachmann: IBM should have pushed OS/2 on PowerPC much harder instead of touting the Workplace OS and their PowerPC systems as operating system neutral "iron."

The most absurd thing IBM has ever done was to support "Windoze" NT as an option on PowerPC systems.

IBM should have started porting OS/2 (which is a 32-bit portable OS) to PowerPC as early as possible. It should have put most of its efforts into that instead of diversifying its energy into porting others' operating systems on the Mach kernel-based Workplace OS that seems to make things too complicated and machines fat, slow, and sluggish. In recent months, IBM has turned its direction, correctly, to working on the Personal OS/2 and OS/2 for PowerPC.

Guohuan Dai
Kansas City, Missouri

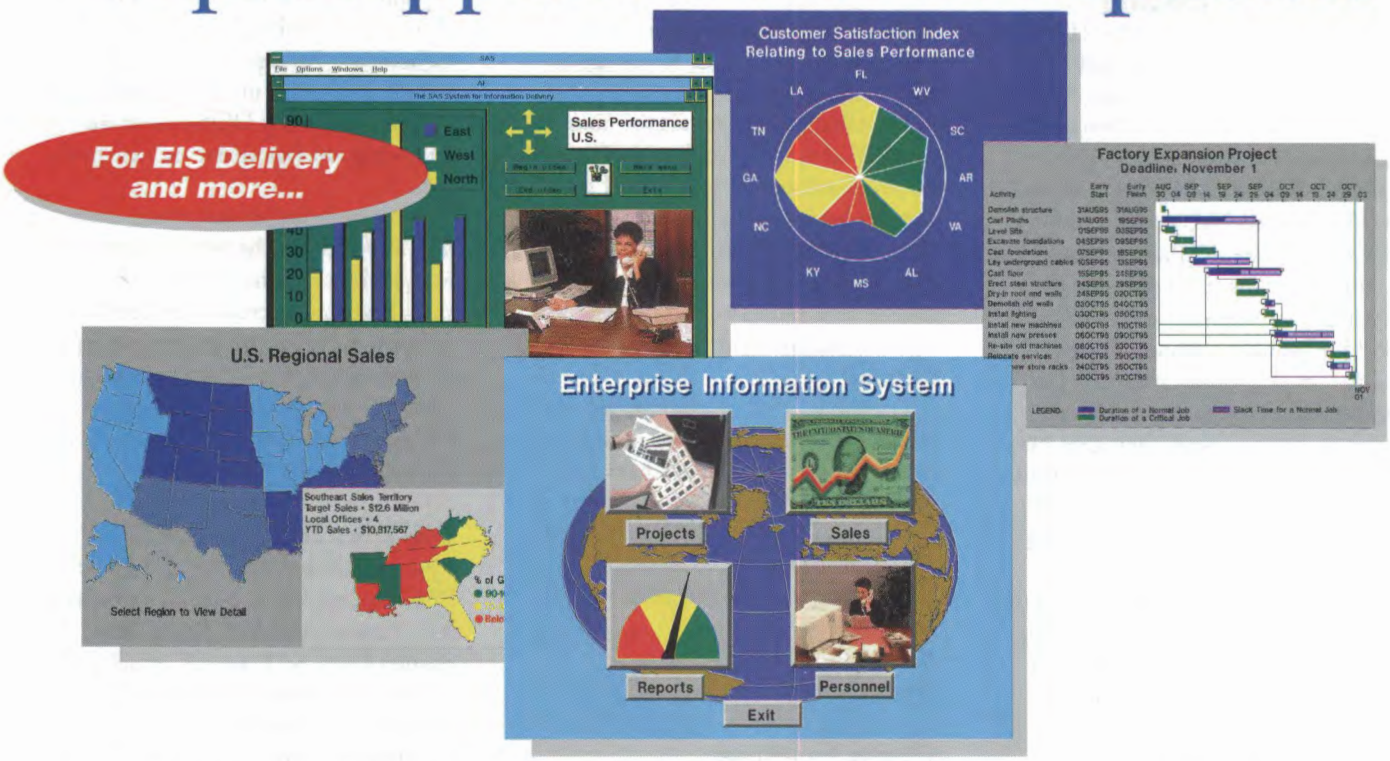
Two Internet resources

In the past, I've run across two very worthwhile Internet resources in the alt.internet.services Usenet newsgroup that are worth sharing:

SPECIAL INTERNET CONNECTIONS (loosely known as the "Yanoff List"), compiled by Scott

continued on page 66

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BYTES & PIECES

News and trivialities, important and obscure

Lou's world

IBM is fighting back. CEO Lou Gerstner knows that the battle to rebuild IBM ultimately is about market share. And so he's making marketing changes left and right.

The first move came when PC Company President Robert Corrigan's retirement was announced in early May. Corrigan's replacement, Richard Thoman, a former Amex marketing exec and certified FOL (Friend of Lou), comes on board with a mandate to pursue the consumer market aggressively through a shift toward commodity PC sales and PowerPC machines.

Shortly thereafter, Big Blue announced the largest structural reorganization in decades of its worldwide marketing and sales force.

Not two weeks later, newspaper headlines screamed the news that IBM had summarily dismissed some 40 advertising agencies. The near-half billion dollar account now belongs to New York-based Ogilvy & Mather Worldwide Inc., thanks in large part to the work of two individuals—Rochelle Lazarus, O&M's president of North American operations, and Abby Kohnstamm, the IBM vice president in charge of corporate marketing—who are both longtime Gerstner associates.



While many in the industry, including the newsletter we publish, *OS/2 Week*, hailed the move as long overdue, the *way* in which the dismissals were announced raised some eyebrows. Lintas:Worldwide, IBM's largest ad rep, was reportedly informed in phone calls just 15 minutes before the decision was announced. So sudden was the move that PSP Communications Director Peter Hayes and Advertising Manager Joane Meleski, both at Comdex, found out only after the fact.

Lintas deserved to go. But the manner in which Big Blue gave it and the other agencies the big kiss-off was cold, even by today's standards, and is a warning to any and all in this industry that loyalty is a lot like DOS—obsolete. Lou is that determined.

Then on the eve of the Memorial Day weekend IBM announced, quietly and internally, a major restructuring of personnel within its Personal Software Products Division. The move is intended to place greater emphasis on the company's Workplace technology, and reflects a strategic move by Gerstner to put his marketing where his margin is likely to be: with the PowerPC.

That was May. Stay tuned for what Lou did on his summer vacation.

The Chicago effect

According to an on-going survey being conducted by International Data Corp., a market research firm, Microsoft's Chicago may have captured the attention of those on computing's bleeding edge, but it seems to lack staying power. The study, dubbed *Chicago Fire*, aims to assess the public's perception of the as yet unseen operating system prior to and following its release.

Forty percent of the potential Chicago buyers surveyed by IDC indicated that after considering Chicago, they found themselves re-evaluating OS/2. Furthermore, five of six members of the study group had changed their opinion of OS/2 for the better, indicating that they would consider running it rather than Chicago.

New OS/2 spreadsheet to challenge 1-2-3

Lotus's 1-2-3 for OS/2 may finally get a run for its money when Athena Design, Inc. rolls out Mesa 2 for OS/2. The product, slated to ship Aug. 3, is a native 32-bit, object oriented spreadsheet for OS/2. And it has picked up some impressive backers, among them Mr. OS/2, PSP Director of Strategic Relations John Soyring.

If you've worked within the confines of the PC world, you may not have heard of Mesa. But it's no newcomer. "Mesa 1.5 is currently the number-one selling spreadsheet available for the NeXT platform," says Athena Marketing Director Tracy Kugelman. But she is quick to note that Mesa 2 is a full-featured OS/2 application newly built from the bottom up. "It's not a port," she emphasizes.

Mesa 2.0 will feature a workbook-like GUI in the form of a layered spreadsheet with tabs. It will take advantage of OS/2's multithreading capability, with each spreadsheet running in its own thread. In June the product entered the second stage of an eight-phase beta test program.

Athena also plans to ship for OS/2 running on the PowerPC. "Our product will be ready the day IBM ships OS/2 for the PPC," says company President David Pollack.



High-flying preload

While IBM continues to promise that it *will* preload OS/2 on its PCs and portables, any day now, it has decided to preload someone else's software. Beginning in June, all ThinkPads shipped from the factory contained copies of Flightdisk Worldwide Edition, a database that includes airline schedules for more than 65,000 flights.

Compiled by the Official Airline Guide (OAG), Flightdisk enables ThinkPad users to view flight schedules and locate toll-free airline, hotel, and car rental listings. A user merely enters his or her origin and destination information, for example, along with travel date and time, and the software does the rest.

OAG spokesman Bob Brindley says that the disk-based version of Flightdisk contains the same schedule information as the printed books used by travel agents worldwide. It does not list fares, however.

The catch comes at the end of the first month, when users must subscribe to the service in order to receive an update to keep it current with changing schedules. The Worldwide version of Flightdisk is available for the first year at a reduced rate of $108, and the North American version is available for $77. ◆

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Chicago: A Foundation of Sand

BY WILLIAM F. ZACHMANN

We now know for certain that architecturally Chicago, Microsoft's most recent wannabe "OS/2 Killer," is a house of cards built on a foundation of sand. It won't kill anything but another round of false expectations created by Microsoft.

Chicago clearly isn't the killer 32-bit fully preemptive operating system it was hyped to be last fall. Instead, it is the ambitious hack of Windows 3.x that I suspected it to be months ago. Its implementation of Win32 support is compromised in a number of ways. As a result, Chicago isn't likely to be any more reliable for "industrial strength" applications deployment than Windows 3.x has been.



The problem isn't that Microsoft doesn't have clever and capable programmers. The problem is that, with Chicago, Microsoft is trying to put a ten-pound load in a two-pound sack. The result is an operating system "of pleasing exterior and dubious inner content," to borrow George I. Gurdjieff's marvelous phrase, albeit out of context.

Chicago may provide a prettier face, but beneath the covers it won't come near operating systems like OS/2 or Windows NT in robust support for serious, 32-bit, fully preemptive, multitasking, multithreaded applications. It's more of a "Win32s on steroids" than a real "NT Lite." It doesn't have the right stuff to be a serious platform for 32-bit software deployment.

The compromises that are Chicago are rooted in a number of issues. Among them: constraints of backward compatibility for 16-bit DOS and Windows applications and device drivers; the need to get Chicago done as rapidly as possible after NT's failure to provide a reasonable contender to OS/2 on the desktop; and Microsoft's efforts (ultimately futile) to get Chicago to run well on 4mb systems ("4mb is our mantra!"). And yet, even with the compromises, Microsoft has missed key objectives other than backward compatibility for 16-bit Windows applications and drivers.

DOS application compatibility looks like a weak point for Chicago. Although details are still sketchy as this is written, it appears that a significant number of DOS applications will not be able to run in Chicago's more restricted version of Windows 3.1's DOS virtual machine environment. To get around that, Chicago will include what is called "Single MS-DOS Application Mode," which apparently will shut down Chicago's multitasking when run.

Despite all the corners that have been cut, Chicago is late and getting later. Microsoft's continued claims to be "on schedule" and reaffirmations of a shipping date "by the end of the year" notwithstanding, chances are slim to none that we'll see shrink wrapped copies of Chicago before the spring of 1995. (Remember, Microsoft insisted right up to late September of 1992 that Windows NT was on schedule and would ship by the end of the year. It didn't actually ship until the third quarter of 1993.)

Finally, regardless of all the chanting of the "4mb mantra" over the past few years, Chicago won't be good for much on a system with less than 8mb of memory. Its resource requirements will likely equal or exceed those of OS/2 2.1 (already more than a year old) and certainly will be considerably greater than those of the soon-to-be-released updated "Personal" version of OS/2.

Chicago has extremely ambitious and contradictory goals of compatibility, size, features, and schedule. The compromises required by the attempt to meet those goals have caused Chicago to fall behind schedule, yet still leave it significantly short of the capabilities claimed for it last fall.

The worst center on Win16Lock. Since 16-bit Windows applications are not re-entrant, the operating system must continue executing old apps in a non-preemptive mode. Moreover, some apps depend on the specific sequencing of certain system messages. Beyond the application level, Chicago continues to use major portions of non-reentrant 16-bit system code (specifically KERNEL, USER, and GDI) because of memory constraints.

In addition, numerous Win32 calls handled by Chicago are, in fact, thunked back to the old 16-bit equivalents, again primarily to save space. Since all that 16-bit Windows code is not re-entrant, Chicago needs to prevent preemption whenever 16-bit applications or system code is running. To do that, Chicago simply blocks all 16-bit code on a single semaphore that is set and cleared with the Win16Lock call.

Simply put, whenever 16-bit code needs to execute, the Win16Lock semaphore must be set for it. If that semaphore is already set, the requesting thread will block on that semaphore until the 16-bit thread that has already set it relinquishes it.

Worse, since 16-bit Windows applications can manipulate 16-bit Windows components directly without explicit entry into the 16-bit Windows subsystem, Win16Lock must remain set for as long as any 16-bit thread is active. Since all Win32 applications require access to 16-bit Windows code (both in thunking down to underlying 16-bit calls generally and whenever they need the services of KERNEL, USER, or GDI in particular) they, too, will block on the Win16Lock semaphore.

A good source for more details on all this is Adrian King's article, "Memory Management, the Win32 Subsystem, and Internal Synchronization in Chicago" in the May 1994 issue of the *Microsoft Systems Journal*. King leaves no room to doubt the potential effects of the Win16Lock semaphore: "If a 16-bit application actually hangs, the system will gradually come to a halt as the Win32 threads block on Win16Lock."

Precisely how serious the practical effect of all this will be remains to be determined. It will not be until well into the broad beta program for Chicago, possibly not until the final product

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ships, that we can be sure just how big a problem this is likely to be in practice.

There is no longer room to doubt, however, that Chicago won't provide a fundamentally more robust or more reliable platform for industrial strength applications deployment than that already provided by Windows 3.x. It may prove to be a reasonably adequate alternative for individual users, much the way that Windows 3.0 and 3.1 have. It most certainly will not, however, live up to expectations that it will really be the OS/2-like (or NT-like) truly preemptive 32-bit operating system it was claimed to be in early press accounts.

On the contrary, it could prove to be even more fragile than Windows 3.1 under heavy duty use. Chicago looks more and more like yet another of those Microsoft operating systems that runs much better on an overhead projector than it does on the computers users really have. OS/2 still has plenty of running room. ◆

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Q & A

A straight-talk interview on topics of professional concern

SOME NOTES WITH LOTUS ON OS/2

Hilmi Ozguc is the director of product management for the OS/2 Product Line at Lotus Development Corp., currently the biggest developer actively working in the OS/2 marketplace. He was involved in the SmartSuite's momentous launch. Now, during the current subdued attempt to rebound while IBM controls the marketing, Ozguc answers some pointed questions.

***OS/2 Professional* editors Edwin Black and Brad Kliewer spoke with Ozguc April 26, 1994 at the PSP Technical Interchange in San Francisco. An edited transcript follows.**



***OS/2 Professional*: There seems to be a trend in the marketplace today toward larger integrated apps. There is also a lot of activity in workgroups. Tell us what Lotus is doing in those two areas.**

Hilmi Ozguc: We're trying to bring our SmartSuite applications to a point where they are one with Notes—where there are less visible lines between the individual apps and Notes, and using that as a complete solution for workgroup computing. The idea here is to improve the productivity beyond what individuals can do to what a team of people can do.

You're operating on so many different platforms now. Have you discovered the reason people choose one platform over another?

The reasons are changing and we've seen this change over the past year in a very remarkable manner. Operating system choices are becoming strategic. They used to be tactical when the PC was your individual personal productivity platform. Everything else, such as the mission-critical software, was on the mid-range or mainframe system. Now everything is moving to the same client/server LAN-based operating system.

Companies are asking themselves what is the most logical choice in terms of operating system as they migrate to a client/server environment. The typical requirement is that it be a modern operating system, 32-bit, with an advanced user interface, and that it be proven and robust. Customers are not willing to bet on technology promises about what might emerge in the future; rather, they are looking at what is proven today.

We hear from so many individual users, "I'm waiting for Chica-

go," but we don't hear it as often from the business community. Does this mean that the SmartSuite is appealing to a business environment?

Absolutely. That's our primary market, large business enterprises. A lot of companies have outgrown DOS/Windows, and they're also downsizing, rightsizing their mainframe system. OS/2 is a very logical choice for them. There are also companies that are saying indeed, "Look, we follow what Microsoft does so we'll wait." They do so probably at their own risk, but that might be their choice. We also have products that we're developing for Chicago. Our goal is to be there with a complete offering for whatever the operating system choice is, whether it's Chicago or OS/2. The difference, of course, is that OS/2 is available today.

Does Chicago give you the facilities you need?

It depends on the customer's needs. If you look at the design goals for Chicago, what is reported in the press, they are awfully similar to what the design goals have been for OS/2. In many ways you can look at Chicago as OS/2 2.x from Microsoft. That's pretty ironic given that this is the company that invented OS/2 only to walk away from it. But they're being driven by their customers and by the needs people have to provide a modern operating system that can do a lot of the things that OS/2 does.

You said that the facilities in Chicago are very similar to what is in OS/2. How simple is it going to be to write code that runs under both operating systems? How do you go about that?

Our strategy is to really go to a common code base system across the board in all of our products. The trick is to isolate dependencies on any one operating system to a very large degree. We think we can do that. In fact, we've been working on this technology for the last two or three years. We have been moving to a new generation of 32-bit object architecture-based code bases that separate out the need to depend on certain operating system facilities. Since Chicago and OS/2 are likely to be very similar in terms of the services they offer to applications, we think we can decrease the percentage that is operating system dependent.

Have you seen the article in *OS/2 Professional* on the unfulfilled promise of 32-bit computing? One of the things discussed in that article is that the performance of 32-bit applications has been disappointing. We identify several areas that contribute to that: inexperience in a 32-bit environment and the fact that the 32-bit instruction set is larger and slower for certain operations that are actually more optimal under 16 bit.

Right. Correct.

What is Lotus doing to address some of that? Do you see 32-bit as eventually giving you a performance boost over existing 16-bit code?

It sounds like your article identified some very interesting areas and some myths I think that exist today about 32-bit computing in general. There is this general expectation that going from 16 to 32 is going to double your performance. I think a lot of that comes from the Nintendo wars of 8-bit to 16-bit and the hype that was built around it—very simplistic. Unfortunately, I think some customers expect this, and it's just for the reasons you outline that it is just not feasible. Our experience has been that if you take a piece of finely tuned 16-bit code, that has had the benefit of several revisions and years of work on it, and you take it to 32 bit, you're not going to see much of a big performance boost. If you take a piece of 16-bit code, particularly one written in C++, and it hasn't been very finely tuned, then yes, you're likely to see some gain. But it's not a doubling. It's maybe 10 percent, 20 percent faster, and I'm generalizing across the board here. But it is true that certain operations, as you mentioned, are always going to be better in 16-bit mode because of the fact that oftentimes you only need to process a few bits at a time and the more you have in each instruction, the more overhead you have to deal with.

And, thus far what we've seen are applications that tend to be a little bit slower and larger under OS/2 than a Windows equivalent.

The ones we've produced are actually stronger and faster in some areas, so I'm not comparing to a Windows equivalent. I'm comparing 16-bit OS/2 code to 32-bit OS/2 code for the same app—that's really the only comparison we can make. Comparing it to Windows is something entirely different. If you compare a 16-bit version of the apps to a 32-bit, you see that the 32-bit apps are faster in some areas and about equally as fast as their 16-bit counterparts than others. They're faster when the operating system is totally 32-bit, such as in the graphics operations. And the benefit of the speed is less evident in areas where the operating system is still 16 bit like the PM Win subsystem under OS/2 2.1. So, the application writes out, calls out to the operating system for PM Win in 32-bit mode, and then gets thunked down to 16 bits for the operating system to process that. Not only do you not get a benefit, you potentially have slow operations. Now we are encouraged about IBM converting most of the OS/2 code to full 32-bit. As such, 32-bit applications will benefit from that without having to change.

What is the current installed base of SmartSuite for OS/2?

It is not our policy to break out and give specific numbers for our products.

Are people to believe that they are part of a small elite vanguard of new users or that they are joining a horde of widespread acceptance?

They are joining a large number of some medium-sized and also some very large significant corporations on a worldwide basis.

We know that 95 percent of CorelDraw's revenue comes from Windows, 5 percent comes from Unix and OS/2. How do those numbers stack up for Lotus?

That's another thing we don't break out in terms of Lotus's sales—which platform generates how much sales. All I can tell you is that SmartSuite for OS/2 and the native applications have been increasing in the sales volume.

What about your staffing for OS/2 development? Has it been increasing as well?

Yes. In fact, this is a key area where our investment in OS/2 has increased over the past six months. We have been beefing up in a very significant way the investment we are making in OS/2. That means hiring people, training engineers that we have today, investing more in tools oriented at OS/2 development, and really reorganizing a lot of our engineering teams away from having two separate teams for two platforms to one team charged with delivering code for Windows and OS/2. We believe that is the right way to do this development so that you can get the same feature set, the same technologies on both platforms, at more or less the same time.

Isn't it bizarre that you have such extraordinary excitement about this product, and that the marketplace has such excitement about your product? You are a world class development company, yet you don't control your own marketing in the OS/2 area. I've heard people on the boards say it was a black day for OS/2 when the so-called killer app that people have been waiting years for relinquished and abdicated its marketing powers to IBM.

First of all, I don't think it's bizarre. We have not relinquished and abdicated any powers to anyone. When we made the decision to increase our investment of the funding of OS/2 development in a major way—and we're talking to the tune of millions and millions of dollars—we then said: "How do we do this? What makes the most sense?" What made sense was for us to get into a very close partnership with IBM whereby we could take advantage of IBM's worldwide sales force in increasing the reach of our product. They are experts at selling into corporations around America, and indeed multinational corporations around the world. Our sales force was well-equipped to do it but it's much smaller than IBM's. We wanted IBM to be our partner in reselling and in marketing SmartSuite for OS/2 in addition to our own sales force.

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Q & A

the power to do that, and you don't have the funds to do that.

Oh, sure we do.

Isn't it true that all marketing decisions for the Lotus SmartSuite are made by IBM with an internal IBM product manager?

No, that's not true.

You make your own marketing decisions then?

Absolutely. We developed this product, we designed it.

Then why has it been dark for six months?

In what way?

Well, your in-store demonstrations and newspaper advertising advertise the Windows version of SmartSuite. And, when we go to the stores to look at those, OS/2 is not in evidence. When you promote the SmartSuite and spend your money on the SmartSuite, you sort of "yellowline" OS/2—and OS/2 doesn't get mentioned in those ads, OS/2 doesn't get demoed in those store demonstrations. That's a fact. We've been informed by IBM as recently as last week that it's another three to six months of darkness for Lotus marketing. The OS/2 community wants to know why?

I wouldn't characterize it as a dark market at all. A lot of this is an issue of us changing the way we work among ourselves and with IBM, so that we move to a much wider coverage of advertising and marketing for the OS/2 version of SmartSuite. We're in the process of integrating both Windows and OS/2 messages in our advertising.

You don't even have an approved ad to run if you wanted to, do you?

We're working on a number of things.

But you don't have one, do you?

Sure we do.

So if *BYTE* magazine gave you the back cover of its magazine tomorrow for free—but only for your OS/2 apps—you would have an approved piece of artwork?

Absolutely. The key thing to realize in this relationship, and there is a lot that has been misrepresented, is that this is a partnership that is working with IBM. It is one where we develop the products, they sought our expertise at developing application software—and we built a billion dollar business, have been extremely successful at it—and then rolling those products out in a manner that has also proven itself to be successful. IBM is working with us throughout in the execution of the marketing strategies that we put in place at Lotus. We take advantage of IBM's sales and marketing power in this marketplace so that we can concen-

trate our funding on development. Otherwise, we would have had to spread our money thinner than what we are putting into OS/2 because we would have to beef up more on the sales and marketing side, hire more salespeople, hire more marketing people. Instead, we're hiring more engineers.

But we thought IBM was renowned for great products and lousy marketing.

I think they're changing. They're improving in significant areas. Some of these changes may not be visible right now and they might not occur overnight. But we have been encouraged by what we've been getting from IBM in terms of cooperation on the marketing side.

In the meantime, you have solved your problems on performance—Ami Pro is now a real, workable product ...

Glad to hear you think so.

... but it's still a secret.

That has really been due to the fact that Ami Pro 3.0a, the performance release, was just released. The interesting thing is that a very high percentage of our sales have already shifted to SmartSuite sales. So, if you look at the total number of OS/2 applications sales, a very high percentage of those goes out as SmartSuite. As long as we don't include the latest releases in the Suite it's not very visible. That's why we're also coming out with this SmartSuite release 1.1 for OS/2. The idea is to put in the latest releases including Ami Pro 3.0a, 1-2-3 release 2.1, and Freelance release 2.1 in the Suite.

When will we see Organizer come into OS/2?

Hopefully, sooner than later. Our plan is really to go beyond just the five applications we have for OS/2.

What year?

Again, hopefully in '94, but if not in '94 then in '95.

Will Approach come in?

We're getting requests from our customer base for Approach, for Organizer—those two applications in particular are requested by a lot of our customers. We're seriously looking at what it would take and how quickly we can bring those over to OS/2. But there is nothing specific at this point.

One last question: Are you making money on OS/2 applications?

Absolutely. Otherwise, why would we be in this market?

Thank you very much, Mr. Ozguc. ◆

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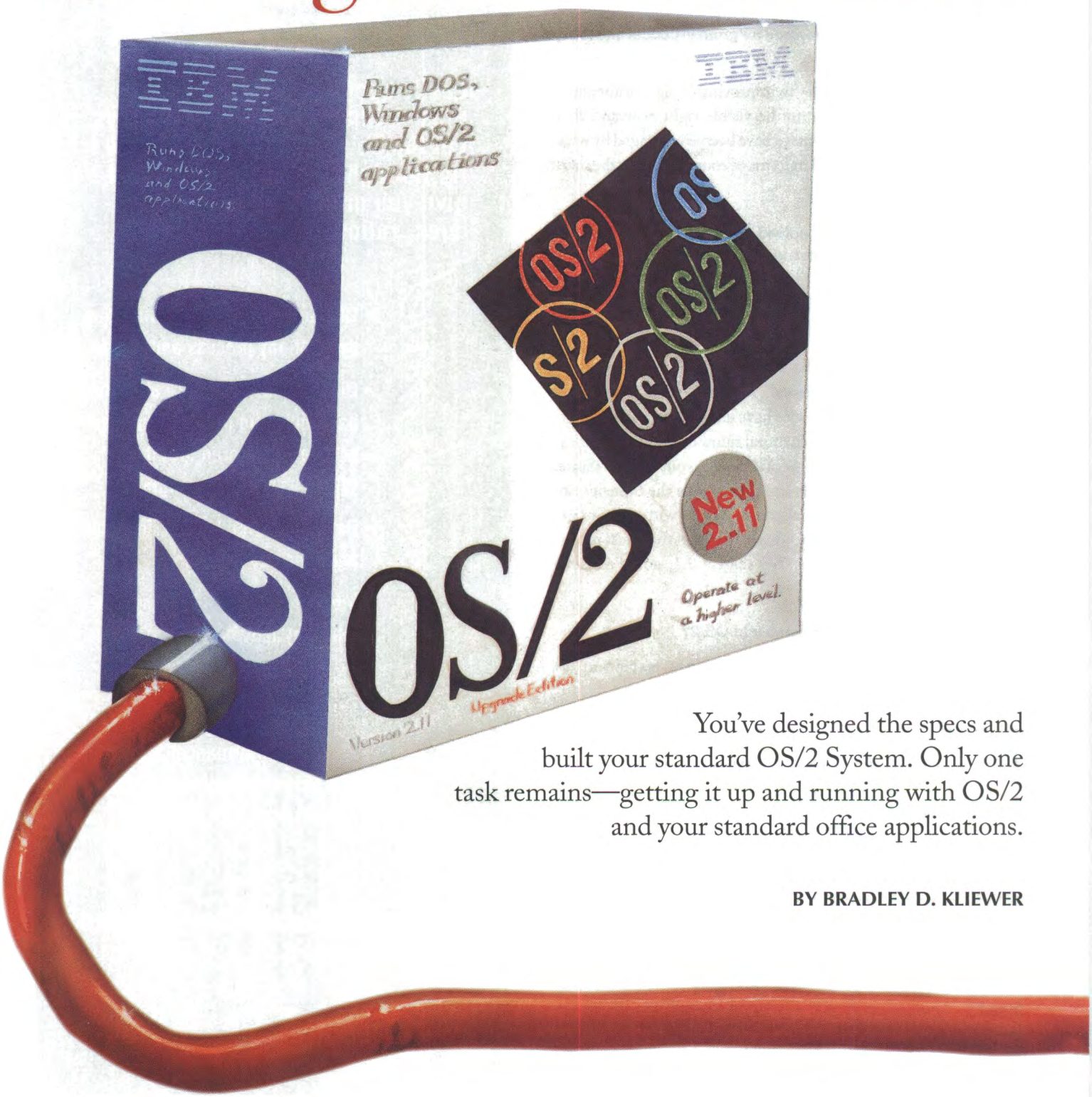
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BUILDING YOUR OWN: PART 2

Making the Connection



You've designed the specs and built your standard OS/2 System. Only one task remains—getting it up and running with OS/2 and your standard office applications.

BY BRADLEY D. KLIEWER

If the PC is the power tool of the modern business enterprise, the network is the conveyor belt. Without it, your employees can still get work done, but it will be impossible to leverage their work together productively, and the revenue curve will plummet.

What may be less obvious is that the network can be a productivity tool for you as well. As you tie together the machines we specced for you last month [Special Report, June], you'll need to find a reliable way to migrate your OS/2 environment to your new systems. That way is actually close at hand—as close as your network server.

Unless your IS environment is very unusual, you already have at least one network environment. And unless you're a determined trend-bucker, you likely have Novell's NetWare somewhere—it dominates the network scene.

Fortunately, Novell has kept OS/2 development at the forefront through its NetWare Client for OS/2 (available for download from CompuServe or directly from Novell on diskette). Not only will Novell's client give you access to your NetWare servers, but it will integrate nicely with IBM network adapter protocols.

Mixing Environments

Why would you want to mix network environments? To maintain connectivity to IBM mainframe and midrange systems (through products such as Communications Manager/2), for example. Or you may work in an IBM shop that places a premium on IBM products such as OS/2 LAN Server, a product that in its latest incarnations has proven competitive in both features and performance with NetWare.

However, you don't need to be true Blue to opt for some IBM-style connectivity. Even the staunchest NetWare adherents have reason to consider a small LAN Server addition. That reason is a feature called CID, which can greatly ease OS/2 installation burdens in a growing OS/2 site. CID (formally, Configuration Installation and Distribution) acts as a substitute for one of the more valuable options offered on a new PC: preloading.

At first hearing, such advice may seem extravagant—the expense of a new server license could easily blow your departmental budget. But unlike Novell, where pricing is determined primarily based on overall network size, IBM starts with a fixed price for LAN Server. Each active client then increments the cost. As a result, your department need budget for only the Server software plus a few requesters for the installation process—a significant savings over licensing every system on the network.

If you have a major installation project ahead of you, you need to explore the likelihood that using CID via LAN Server will allow you to recoup your costs in short order. Should you later decide that CID is a valuable system-wide tool, you can then decide to license a requester for every OS/2 workstation in the office.

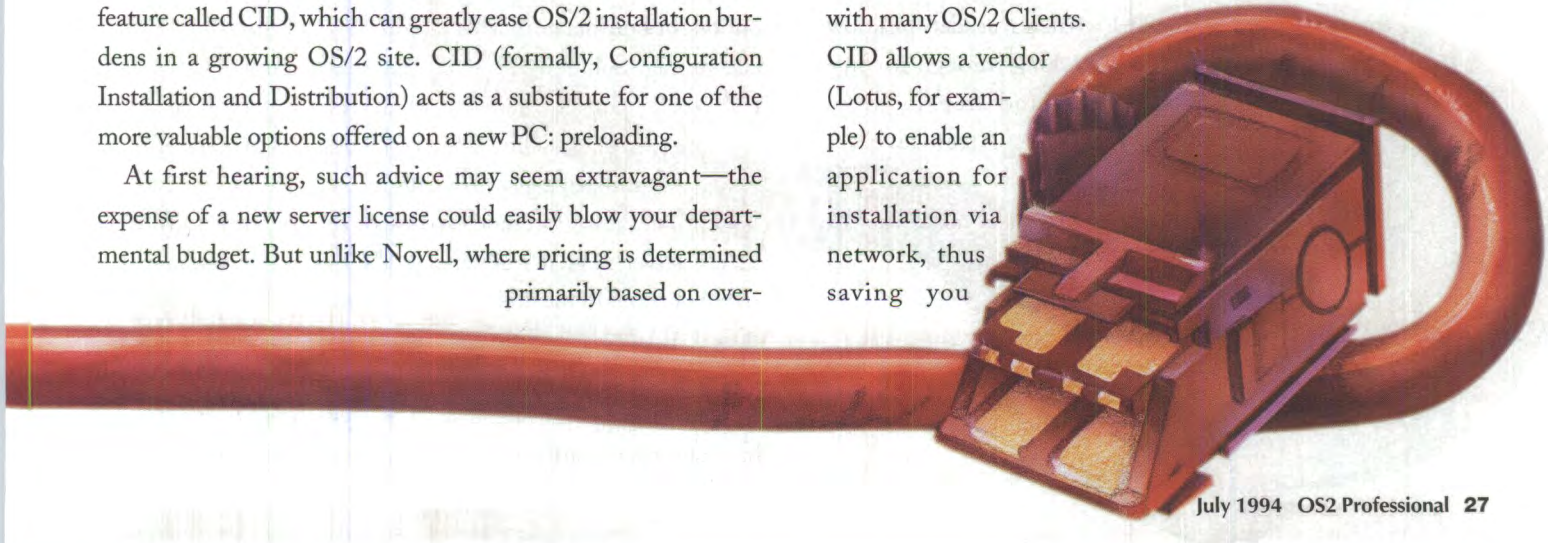
LAN Server admittedly does carry some baggage that has hindered its image. The success of a network operating system hinges on its ability to keep network operations independent of mundane system details such as the type of hardware installed. But IBM didn't tend to its homework: When OS/2 2.0 first hit the streets, only a handful of network adapters were supported through LAPS (LAN Adapter and Protocol Support), which is used to install adapter drivers for IBM LAN Server and other communications products. As a result, it became a major challenge to get PC operating systems and network operating systems to talk to one another.

Fortunately, the situation is much improved. That's due at least in part to IBM's wise adoption of NDIS (Network Driver Interface Specification) compatible drivers.

For the most part, to allow LAN Server to work with OS/2 a network adapter vendor need only create a .NIF file that tells OS/2, through LAPS, how to configure the system to use existing NDIS drivers for existing systems (primarily Microsoft's LAN Manager).

Saving Time with CID

The CID utility makes LAN Server 3.0 invaluable for networks with many OS/2 Clients. CID allows a vendor (Lotus, for example) to enable an application for installation via network, thus saving you



the tedium of swapping floppies and answering configuration prompts. Most importantly, OS/2 itself is CID-enabled.

On the hardware side, CID is remarkably device independent. When you consider that the boot diskettes that start an installation process must handle the two major network adapter topologies (Ethernet and Token Ring) and hundreds of different flavors (every vendor seems to put some distinguishing hardware feature on its adapters), the prospects for a simple installation process seem very dim indeed.

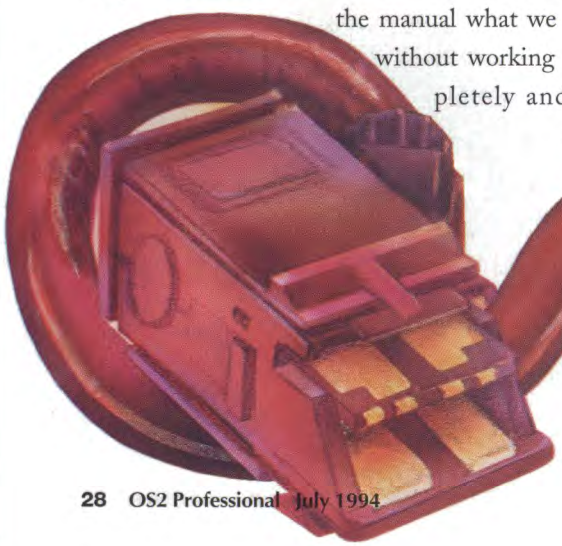
Within the *OS/2 Professional* offices alone we have several variations. The Rockville office uses an Ethernet network. Minneapolis uses Token Ring with adapters from at least five vendors (see the sidebar "Hard[ware] Target"). To work with such a broad base of adapters, utilities within the CID build custom OS/2 boot diskettes targeted for a particular network adapter or family.

Fortunately, the utilities draw files and information from existing NDIS drivers—paring the files down to the barest skeletons that will support the specified adapter. Other than this so-called "thin" adapter support, you will see no hardware-specific references in the CID setup.

In addition to building the client boot diskettes, you must configure the CID server (which does not necessarily need to be the network server itself; it can be any OS/2 machine on the network). The entire process for building the client and host support structures is outlined in about 84 pages of documentation—the *Redirected Installation and Configuration Guide* that comes with LAN Server.

Getting Down to Details

With this rather intimidating documentation before us, we set out to practice what we preach: to simplify our network management by choosing LAN Server and utilizing CID. And we made a key—and all too common—mistake: we tried to pick out from the manual what we needed to know without working through it completely and step-by-step. After several false starts, we gave up on the fast track approach, went back, and worked our way through systematically.



In the end, we had a working CID server and a set of two client setup boot diskettes configured for one of our original IBM Token Ring adapters. Because this was our first attempt at a CID install, we decided genuine IBM adapters would reduce the chances of a failure due to slightly incompatible hardware or drivers. This turned out to be a wise decision since a few drivers rely on fixed directory structures that may not exist on the CID boot diskettes. (See the sidebar "NIFty installation" for details). All in all, it took two of us working two hard weeks (while dealing with the typical demands of computer support and editorial calendars) to get CID working smoothly. Of course, we were working blind—with the information presented here, you should have your own CID up and running in much less time.

Once you have the utility configured, the CID installation itself is quite simple. If you can live with a plain-vanilla configuration, you simply boot from the two diskettes the client machine, type a client name (we use IFSETUP, for "International Features Setup") at the prompt, and CID takes off. Unlike a typical network name, which is unique for each workstation or user, the CID client name maps to a preset configuration command file (e.g., IFSETUP.CMD, which controls the install process) and so can be re-used for identical setups. Furthermore, by using different names, you can customize install profiles for particular departments or job functions.

Unlike a diskette or CD-ROM-based installation, CID does not prompt for system settings, since this information has already been specified in a response file. Instead, the entire operating system downloads in one swoop. The process is simpler and faster even than a CD-ROM installation (about 20 minutes across our 4mbps IBM Token ring adapters). In fact, one competitive option for non-network installations, Quick/2 Install from Parallel Storage Solutions, uses CID internally to install OS/2 from PSS parallel port tape systems (see the review in our June issue).

If you will be installing OS/2 on dozens or hundreds of computers, the time savings will quickly recoup the initial investment in configuration effort (and expense, if you are not already using LAN Server). What really makes CID shine, however, is that major portions of the utility were written as REXX programs. So if the CID designers didn't anticipate all of your unique requirements, you can add your own custom code to the process.

For example, if the hard disk on the system you're installing to has not yet been partitioned, CID will automatically partition the

disk as one big logical drive, reboot, and continue the installation without operator intervention. But we prefer multiple partitions unless disk space is limited (see "Partitioning the Disk," pg. 30). By calling FDISK from a REXX program, you can automatically set the partitions to whatever size you want (see this month's Code Cache on pg. 57).

Disk formatting required further tweaking. The OS/2 installation program assumes drive C will contain the complete system. However, we've learned the hard way that the WIN-OS2 directories can grow by leaps and bounds as you add Windows applications to a system. OS/2 .INI files and extended attributes tend to follow a similar trend. To keep these two subsystems from battling it out on a boot partition, we moved the WIN-OS/2 subsystem to drive D. That required yet another change to the REXX CID code.

Stupid REXX Tricks

REXX can ease your installation woes in lots of ways. As we reported last month, OS/2's installation program got confused by the Adaptec AIC7770.ADD device drivers. For the first few installations, we hand-crafted the CONFIG.SYS at each stage of the installation process. Of course, after the basic operating system installation, we were still left with several standard applications and data files to install (such as our standard databases). Rather than install these files from scratch, we typically copy them from an identically configured machine, but even this quickly became a tiresome chore.

With a number of systems yet to install, we chose to pull a little trick. Every time OS/2 boots it runs a batch file called STARTUP.CMD if that file is present. If you've loaded the REXX extensions, you can write a REXX program called STARTUP.CMD that will run through the housecleaning chores and then erase itself.

We built a prototype STARTUP.CMD and copied it onto drive C at install time. The prototype STARTUP.CMD removed the generic IBMINT13.I13 driver (if installed), added AIC7770.ADD, modified PATH statements to match our specifications, and removed duplicate (or unnecessary) statements from the file. It also located a .ZIP file with all of our standard files (and a copy of the default desktop configuration), unzipped the archive into the data drive, and deleted the .ZIP file. The time savings were enormous.

As with hardware construction, the up-front configuration and programming for a CID installation are not worth the effort if you have only a small number of machines to set up. You should

Hard(ware) Target

When setting the network adapter standards for *OS/2 Professional*, we were more concerned with uniformity (to minimize the differences in CID client boot diskettes and final machine profiles) than particular hardware standards (other than EISA compatibility, of course).

EISA and Ethernet

For Rockville's Ethernet installation we chose 3Com adapters for historical reasons: they are one of the earliest LAN Server-compatible Ethernet adapters. Additionally, 3Com ISA adapters are EISA aware, and can be configured through an EISA machine's ECU (EISA Configuration Utility).

According to a 3Com technical support representative, full EISA implementation does not give a significant performance edge at the 10mbps rate of standard Ethernet, and using the company's hybrid ISA/EISA adapter cuts costs while gaining about 15 percent better performance on EISA versus ISA systems.

EISA and Token Ring

In Minneapolis, Token Ring forms the core of the network. Originally, we had intended to use Intel TokenExpress EISA 16/4 adapters. However, as with the ATI Graphics Ultra Pro and Adaptec 2742T SCSI adapters (as reported in last month's issue), the hardware was incompatible with the Cache motherboard.

Our existing installed base of Token Ring adapters included IBM, Thomas-Conrad, and Proteon adapters. Two years ago, with our adoption of OS/2 2.0, we upgraded our ISA-based Northgate server from an IBM Token Ring adapter (which, curiously enough, would not work reliably with OS/2 2.0 and LAN Server) to the Thomas-Conrad 4035 bus-mastered ISA adapter.

Although the Thomas-Conrad adapter did not support OS/2 LAN Server at the time, we were able to use the Microsoft LAN Manager drivers and create our own .NIF file to install them. The resulting configuration not only boosted performance dramatically, but ended the intermittent TRAP errors we had experienced with the IBM adapters.

However, Thomas-Conrad did not support OS/2 on its EISA Token Ring adapters and the Proteon p1990 Plus Token Ring adapters (with 32-bit EISA bus mastering) became the adapter of choice. With a complete network workstation configuration thus defined, we were ready to begin our wholesale installation of OS/2. ◆

Partitioning the Disk

If your primary disk is larger than 300mb, we recommend dedicating a 40mb-120mb partition for OS/2 itself. Such a configuration may very well save some major support headaches as you upgrade your system to new versions of OS/2 (or service packs). Should disaster ever strike during the upgrade process, you can more easily (and comfortably) install OS/2 from scratch by reformatting the C drive while leaving data intact on the logical D drive.

The ideal size of the C partition will vary according to your configuration. 40mb pushes the lower limit, and should be reserved for smaller hard disks that will never use WIN-OS/2 (or other large portions of the system) and can comfortably stick with OS/2 2.1 should the size of the operating system grow in future releases. 120mb is on the generous side, but may be necessary if the system requires options and extensions installed on the boot drive (such as some Communications Manager configurations).

The goal is to leave as much growing room as possible on the data and application drive. If you are a Windows user, one trick that will help is to install the Windows portion of the code on the D partition rather than the C partition. If you accept the default installation to the C drive, Windows applications (which frequently add portions of their code within the Windows system directories) can quickly consume what may have originally seemed like plenty of room.

Another trick that can prevent support nightmares, even if you are a committed OS/2 player with HPFS-formatted drives, is to install at least a minimal copy of DOS somewhere on the disk. The *OS/2 Professional* partition configuration consists of a 120mb HPFS OS/2 boot partition (for OS/2 and LAN Requester), a 5mb FAT DOS boot partition, and a 1mb Boot Manager partition, with the remainder (390mb on our Quantum LPS540s hard drives) allocated to WIN-OS/2, applications, and data.

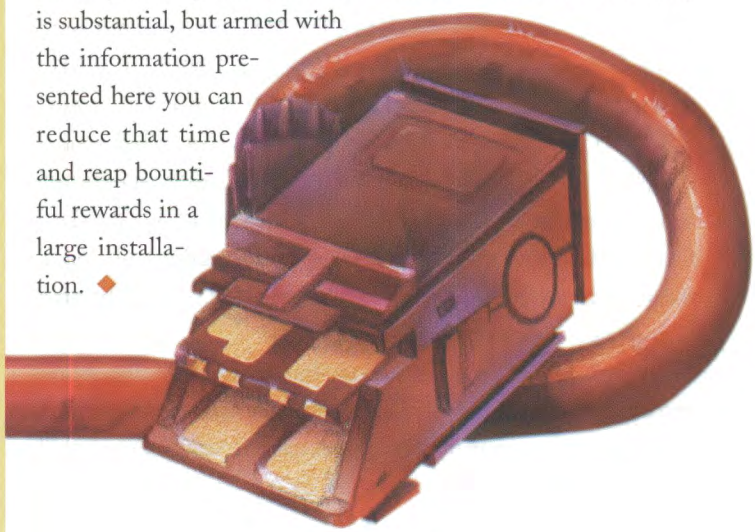
The DOS partition, which may need up to 10mb of space, becomes a repository for configuration utilities that run only under DOS. We prefer limiting DOS programs that tweak hardware settings directly to a pure DOS environment. For EISA systems, this includes the ECU (EISA Configuration Utility) and hardware diagnostics programs. The ATI Graphics Ultra Plus (a standard component in our systems) includes a utility that adjusts adapter/monitor timings and other parameters set once in a lifetime. ◆

really be looking at an installation (or system upgrade) of at least 10 systems before seriously considering CID. If you're extremely adept with REXX programming (and good at debugging by sight rather than experimentation) you can probably drop the break-even point to about five systems. But be prepared for some frustration—you start to understand just how long the OS/2 boot cycle really is as you try to fix a broken piece of your custom installation code.

The reams of documentation you must deal with (and the sometimes ironic lack of *useful* reference material) will do nothing to change OS/2's reputation as a difficult-to-install system. Of course, many people have forgotten just how difficult DOS/Windows installation can be when starting from scratch—preloading works wonders for ease-of-installation perceptions.

On the other side of the coin, however, OS/2's reputation for hardware incompatibility is somewhat undeserved. While certain device categories (such as scanners) lack widespread support, general purpose devices (such as graphics and network adapters) are broadly supported by vendors—a trend that continues to grow rapidly. Throughout our configuration and installation process we encountered far more compatibility problems between pieces of hardware from various vendors than between hardware and OS/2. As we noted last month, OS/2 can unmask these problems better than DOS, and we expect that many problems attributed to OS/2 are actually hardware problems. If anything, OS/2 underscores the importance of setting and maintaining hardware standards in the corporate environment.

CID will help you maintain your software standards as well. What you will get from CID is a feature that vendors, thus far, have been slow to deliver—a method for "preloading" your own system. Moreover, as your CID skills develop you can load application software and customize the pre-installed desktops to match your corporate standards. The time investment for setup is substantial, but armed with the information presented here you can reduce that time and reap bountiful rewards in a large installation. ◆



NIFty Installation

IBM's adoption of NDIS drivers creates a bit of a two-edged sword in the support arena. Network adapter vendors have been able to port existing Microsoft LAN Manager drivers into a suitable OS/2 format quickly. But these entries show some signs of rushed development. If you're having trouble installing a network adapter through IBM's LAPS program, a few preventative measures can save considerable installation hassles.

1. Get the latest drivers. BBS access is now a standard feature for network adapter hardware support. The documentation that came with your adapter should list a BBS number; call it and download the latest revision directly from your vendor (or check the resource list we have provided for some of the more popular vendors' BBS numbers). You can also try calling the technical support department, continuing to troubleshoot while on hold or waiting for a callback.

2. Make sure files are located in the proper directories. Most adapter support files will be installed in the \IBMCOM or \IBMCOM\MACS directories. Some adapters use downloadable code that is copied from a file on your hard disk (typically a file with a .DWN extension) to the network adapter. If the adapter driver can't find this file, it will generate an error message and (unfortunately) the error message may be very misleading (we've seen several reference a wiring fault!).

Sometimes the directory name is hard-coded into the driver (e.g. \NDIS\NEADAP\TR). Under this scenario, you may need to create the appropriate directory manually (look for a reference in the documentation or the configuration settings for the drivers) and copy the download file into the new directory.

Sometimes the download directory's location is relative to the driver's location (e.g., up or down one level in the directories). This can be particularly problematic on a floppy-based install (such as CID) where the configuration program loads the driver in the root directory, rather than the \IBMCOM\MACS directory. You can manually create \IBMCOM\MACS, copy the driver into the new directory, change the driver reference in the CONFIG.SYS file to include the new path name, and copy the download file to the appropriate level in the directory (e.g., \IBMCOM).

3. Modify the .NIF file (or create your own for drivers that support only Microsoft LAN Manager). This takes at least a moderate amount of technical skill. Fortunately, the .NIF files are straight ASCII files that you can modify with your favorite line editor or word processor. The format is fairly simple, and you should be able to decode the format by viewing the file. Two clues will help you decipher the information. First, each device driver parameter is in brackets, e.g., **[Address]**. Second, the text following the parameter name describes the LAPS configuration screen (e.g., **Display="Network Address"** tells LAPS to label the data entry field as "Network Address").

You may run into a .NIF file written for LAN Server 2.0 that includes comments (lines preceded by a ;). LAN Server 3.0 will not load files that include comments, so if LAPS refuses to load a driver, check the .NIF file and remove any commented lines.

If removing comments is not possible (or doesn't fix the problem), try removing a parameter block and reinstalling the .NIF (repeat the process until the .NIF loads or no parameter blocks remain). Then reload all but the faulty parameter block—many parameters are optional and the driver will load without one or two. (If you're really determined, try to repair the bad block.)

If you've tried all of the preceding steps and still can't fix the problem, call the manufacturer again and report the problem. If the vendor can't supply a fix within a reasonable time frame, it's time to consider another adapter. ◆

BBS List:

3Com	(408) 980-8204
Accton	(408) 452-8828
Intel	(503) 645-6275
Kingston Technology	(714) 435-2636
Madge	(408) 955-0262
Olicom	(214) 422-9835
Proteon	(508) 366-7827
SMC	(714) 707-2481
Thomas-Conrad	(512) 836-8012



DEAD ON ARRIVAL

A hot OS/2 application developed by IBM is being neglected to death. It need not have happened.

BY EDWIN BLACK

There's a reason why virtually no one has heard of SearchManager/2. There's a reason why, nearly a year after the product was released, less than 50 companies and fewer than 500 people in the U.S. are using it despite the fact that IBM has spent several years and many millions of dollars developing it.

SearchManager/2 is probably the most powerful commercially available text finding tool ever created. Using the techniques of artificial intelligence, SearchManager can find with lightning speed any text or text variation, in English or a dozen other languages, no matter how large the hard drive or how extensive the LAN. It is a perfect example of the power of OS/2 and an extraordinary management tool. And there is no reason why it shouldn't already be installed on thousands of LANs and high-end personal workstations throughout the world. No reason, that is, except for the painfully obvious one: no one knows about it.

Despite a substantial development effort, SearchManager/2

was delivered virtually dead on arrival. This is the story of how IBM suffocated a great product before it ever had a chance to breathe. What makes this story so important, though, is that it describes far more than an isolated failure. It is the reason why IBM and OS/2 have been and continue to be in such deep trouble.

What is SearchManager?

Nearly everyone has low-end text finding capabilities on his or her computer desktop: embedded in a word processing program, as a third-party utility, or through the OS/2 Seek and Scan applet. All are slow, and typically the search capability is limited by the software's lack of power and the programmer's tunnel vision. If you are searching for a statement about a mouse, for example, and the text you need actually contains the word *mice*, conventional word finds will fail. Or if you set out to find a document on air travel by searching for references to *airplane*, you won't find files that use related words such as *jet*.

But SearchManager and its associated Thesaurus is the text finder from hell. Nothing hides from it. It can find any word or phrase or combination of phrases or any variation of the target phrases. For instance: ask for "When the cat's away, the mouse will play." If the software is set up properly, it will find a sentence reading "Mice play if the kitten is not home."

Not satisfied? If you set up the query right, a search for "Louis A. Gerstner" would locate not only any mention of his name, but also one that referred only to "IBM's CEO," or "the former RJR-Nabisco chairman," or even "John Akers's replacement." And with the recent addition of Excalibur's Text Retrieval Server, you can do "fuzzy" searches to turn up documents, even OCR files, containing gross translation errors.

SearchManager is like having your own private Nexis and personal librarian. The natural buyers are the communications industry, the hospital and medical field, manufacturing, sales, research bureaus, law firms, the financial world, and government units, especially law enforcement. Individuals who would love SearchManager include writers, board surfers who capture tons of BBS flow, small businesspeople—anyone, really, with years of stored documents residing on disk.

Imagine you're an auditor looking into questionable invoices paid to the ABC Laser Corporation. With a few keystrokes, you can locate all documents relating to that company, or to its competition, or even the subject of purchasing lasers. Imagine trying to find a complaint letter you wrote two years ago about lost luggage, but you can't remember any of the details. A few keystrokes later you have located all documents that include the words "Dear" and "luggage."

With OS/2 so solidly established in the enterprise, SearchManager should be as automatic an add-on as a good back-up, communications, tuning, or utility program. True, it costs some $285. But price resistance isn't the problem. Many a Fortune 1,000 company would be happy to spend that much for so powerful a tool. The real problem is that SearchManager is one of the many brilliant OS/2 applications that IBM has spent millions developing but is not promoting.

That's a pity. At a time when so many are asking where are the OS/2 apps, the SearchManager case suggests the answer is: hiding in IBM warehouses, real and virtual.

Impressive Roots

To understand the future of SearchManager, you must understand its past. Its grandfather is the STAIRS technology—Storage and Information Retrieval Systems—of the '70s. The Justice Department's antitrust lawsuit against IBM was "the incentive for development of the technology," says Warren Taylor, who is product manager for SearchManager in the United States. "STAIRS helped IBM manage the thousands of documents IBM handled during the litigation."

During the '80s, STAIRS yielded a development program called AIR—Advanced Information Retrieval.

Ironically, AIR was a product less of Yankee know-how than of German ingenuity. AIR's search product was developed in the IBM lab in Boeblingen, Germany, which Taylor says is the birthplace of the term "word processing."

The label stuck. Years later, the AIR product Boeblingen developed to "manage searches" was unimaginatively dubbed "SearchManager." Because the IBM naming convention at the time required all OS/2-specific applications to be tagged with the Slash-2, its final name was "SearchManager/2."

With a yawn of a name like SearchManager, it's no wonder that the text finder from hell hasn't become a household word like Apple, Walkman, or Windows.

Students of IBM CEO Louis A. Gerstner's first days may recall the cigarette and candy king's dismay with IBM's uncatchy product names. Remember when he whimsically asked why OS/2 couldn't be called something like Cobra or Wagoneer? Well, to a certain extent, we're with you, Lou. We think this is an important product, and one that should succeed. So we propose to

rename SearchManager/2 with the more impressive and marketable name it deserves:

BLOODHOUND!

Why Bloodhound? Because no text can hide from it unless you set it up that way. (For example, you could exclude the directory LUVNOTES. Or any phrases that include your secret friend's name.) Otherwise, Bloodhound seeks out the most forgotten of phrases and variations, bites it in the butt and then, with bravado, presents the prize to its handler.

How Does Bloodhound Work?

Bloodhound's astonishing talents are based on a tedious indexing procedure implemented shortly after installation and updated on a regular schedule. The program searches all specified directories and indexes every word in every text file, skipping only those common words (*the, those*) you've agreed it should ignore. The process can take overnight or longer depending upon repository size. It took us eight to ten hours to scan and index just a half-gig of files on a test machine.

Bloodhound is a 32-bit native OS/2 application. However, its multithreading priorities are too aggressive for the system. During Bloodhound's protracted initial operation the disk drive arm is kept so busy that other applications slow to a crawl. So it makes sense to launch the initial indexing during sleeping or non-work hours when no other jobs, such as late night backup, are scheduled.

Unfortunately, you cannot yet use a drag and drop request to tell Bloodhound to do the initial indexing of a directory with all its subdirectories. In other words, you can't just drag the D: root directory to index all the subdirectories on the disk. That's a real pain in the drive. (Periodic updating, however, can automatically include subdirectories.)

After Bloodhound completes its index, it will sniff out targeted words and variations with blinding speed. In a few moments—it took eight seconds to complete one half gig query—you'll get a results folder of found document objects. Any one of them can be dragged to your word processor or editor object. Or double click to view the document in Bloodhound's viewer, with each match word or phrase highlighted.

Using Bloodhound is a lot easier than reading its documentation. The program's instructions use a lot of abstruse terminology. For instance, Bloodhound insists on referring to word variations as "inflections." It took hours for three experienced grammarians to figure out that word inflections did not refer to a speech recognition product that would decipher different voice pitches.

Another term Bloodhound's documentation uses is *lemmatization*. Yes, friends, lemmatization, which means the act of "word stemming," or reducing words to their base form, says Taylor. I guess Bloodhound seeks out lemmazated or lemmasized or lemmistic words in its queries. I'm so happy.

The Non-Marketing of the Bloodhound

If you think the product was put together without much thought given to a mass audience, quadruple that for the marketing plan. That's exactly what IBM did. It planned and it planned. And it planned some more. In fact, despite the fact that Bloodhound finally went GA last September, it is still planning.

Bloodhound is based on linguistic search technology first used in the late '80s as part of the BookManager mainframe application IBM employed to produce its own manuals. Later it appeared on other platforms, including the AS/400, OS/2, and DOS.

Eventually, IBM moved the Bloodhound product into a group of document management solutions that also included Visual Document Library and Image Plus Visual Info. Meeting after meeting ensued as product managers, marketing, communications and technical specialists gathered to plan how to market Bloodhound as both a standalone application and part of the group.

At one meeting in the fall of 1992 at the Boeblingen lab, for example, more than two dozen IBM execs and staffers representing several IBM "geographies" joined lab personnel to "solicit input" and make sales forecasts. Chatting in English around a U-shaped table, the group agreed that the product was extremely valuable and should be promoted. To do that, the IBMers generated spreadsheets full of forecasts and goals.

But instead of a campaign, or even a plan, subsequent months saw only more meetings. Those spreadsheets were regularly

To see what we could do with minimal time and effort, OS/2 Professional commissioned a "mock-up" of a full page Bloodhound ad from a small advertising agency with instructions to produce it on a shoestring budget within 24 hours. The ad on the opposite page was conceived and designed by Richard Kimmel, art director of Delegan & Kimmel It includes a designer's sketch to represent a photo of a bloodhound's nose. Kimmel is formerly an art director with Ogilvy & Mather—the same agency IBM has now selected to handle all its advertising. Edwin Black assisted with body copy.



If it's in there, there's one way to find it.

Put Bloodhound on the trail. If the clue is *airplane*, Bloodhound can find *airport, jet,* even *727.* Give it *Gerstner,* and Bloodhound can track down *IBM's CEO,* even *Aker's replacement.*

What is Bloodhound? It's an amazing software breakthrough that can sniff out any phrase or associated phrases anywhere on your disk or network, because it's the fastest, smartest, most unerring text finder ever invented.

No other commercially available program can seek out every last word variation with its avid speed or dogged thoroughness, simply because no other program uses its proprietary, artificial-intelligence-based, state-of-the-art technology. And, you lucky dog, it's available only for OS/2.

If you're in communications, health care, manufacturing, sales, research, law, finance, or government (not to mention—ha-ha—law enforcement), you really can't afford to be without Bloodhound.

End the frustrating lost and found games you've been playing with your computer. Find out all about Bloodhound, and order it, just by calling *OS/2 Express* at 800-OS/2 KWIK (800-672-5945). Then sit back and enjoy the hunt.

Track it down with Bloodhound.

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IBM

revised, and then revised again. IBM continued to spend hundreds of thousands of dollars on development of the product, and on more meetings.

Bloodhound was finally released in September 1993 as SearchManager/2, initially in what IBM calls U.S. English, and by year's end in foreign languages as well. There was no press release that anyone can locate, no media demos, no phone calls to the OS/2 newsletters and magazines, no channel availability, no BBS play, no David Barnes rah-rah. Eventually some info sheets were printed, presenting the product with about as much pizzazz as an electric bill. And late last year an ad promoting a number of business solutions products was run in *Computerworld* and a few other magazines.

The results were dismal. Fewer than 50 companies adopted Bloodhound in the U.S. and fewer than 100 worldwide—and most of those sales were by the Big Blue sales force.

Bloodhound is still not available in the stores. In theory it can be ordered, but when we queried several chains, they claimed they would have to "do some research."

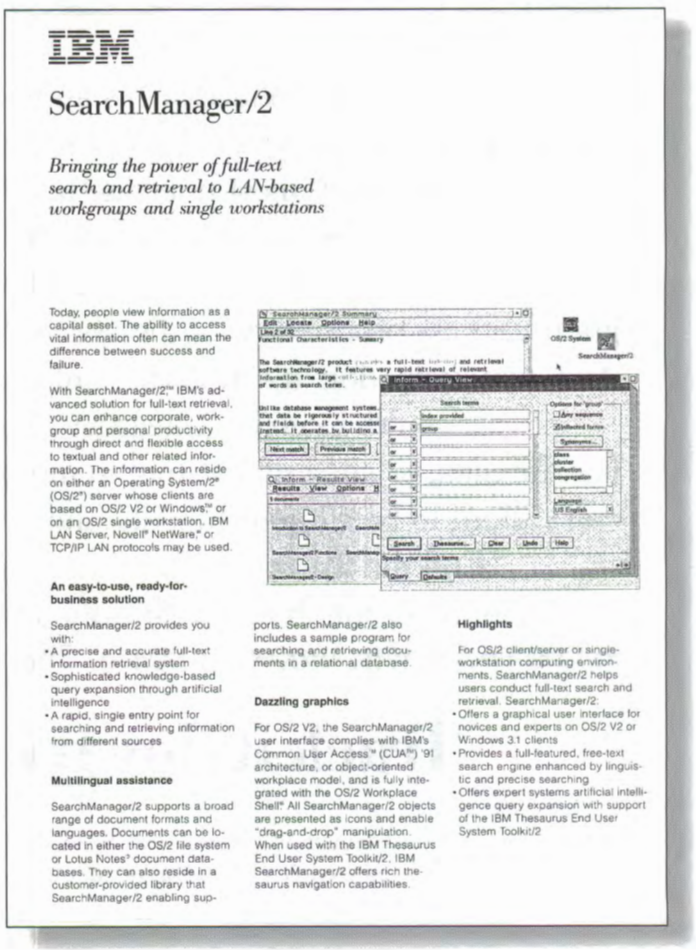
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Even today, key OS/2 merchandising executives at IBM claim they have never heard of SearchManager/2. *OS/2 Professional* discovered it only by accident last April in a corner of the CAMP gathering in Chicago.

A key source working with IBM in one of the countries involved in Bloodhound's international development remarked, "I hate to hurt the ad agency's feelings, but I feel the U.S. advertising was completely ineffective." The comment is consistent with the sort of remarks previously made by some of IBM's most senior advertising executives, including Bill Rich, formerly PSP's worldwide vice president of sales and marketing.

The key IBM source, speaking on condition of anonymity, bemoaned Big Blue's handling of the product. "Advertising and stimulating the channels is sorely lacking for this product," she said. A U.S.-based IBM consultant supporting the product group concurred. "I can't deny there has been neglect. But we are trying to turn that around."

While Bloodhound flounders, the Workgroup Solutions promotional budget has been repeatedly slashed. Some Bloodhound



IBM

SearchManager/2

Bringing the power of full-text search and retrieval to LAN-based workgroups and single workstations

Today, people view information as a capital asset. The ability to access vital information often can mean the difference between success and failure.

With SearchManager/2™ IBM's advanced solution for full-text retrieval, you can enhance corporate, workgroup and personal productivity through direct and flexible access to textual and other related information. The information can reside on either an Operating System/2® (OS/2®) server whose clients are based on OS/2 V2 or Windows,™ or on an OS/2 single workstation. IBM LAN Server, Novell® NetWare,® or TCP/IP LAN protocols may be used.

An easy-to-use, ready-for-business solution

SearchManager/2 provides you with:
- A precise and accurate full-text information retrieval system
- Sophisticated knowledge-based query expansion through artificial intelligence
- A rapid, single entry point for searching and retrieving information from different sources

Multilingual assistance

SearchManager/2 supports a broad range of document formats and languages. Documents can be located in either the OS/2 file system or Lotus Notes® document databases. They can also reside in a customer-provided library that SearchManager/2 enabling supports. SearchManager/2 also includes a sample program for searching and retrieving documents in a relational database.

Dazzling graphics

For OS/2 V2, the SearchManager/2 user interface complies with IBM's Common User Access™ (CUA™) '91 architecture, or object-oriented workplace model, and is fully integrated with the OS/2 Workplace Shell.® All SearchManager/2 objects are presented as icons and enable "drag-and-drop" manipulation. When used with the IBM Thesaurus End User System Toolkit/2, IBM SearchManager/2 offers rich thesaurus navigation capabilities.

Highlights

For OS/2 client/server or single-workstation computing environments, SearchManager/2 helps users conduct full-text search and retrieval. SearchManager/2:
- Offers a graphical user interface for novices and experts on OS/2 V2 or Windows 3.1 clients
- Provides a full-featured, free-text search engine enhanced by linguistic and precise searching
- Offers expert systems artificial intelligence query expansion with support of the IBM Thesaurus End User System Toolkit/2

sources assert the budget is no more than $900,000; others say the real number will be closer to $250,000 once the next round of budget cuts takes hold. Moreover, the company's policy now is to advertise solutions, which would mean promoting Bloodhound only among a number of other products. "That's good for establishing a product group's image," an IBM marketing source comments, "but will only further obscure any one product's individual capabilities.

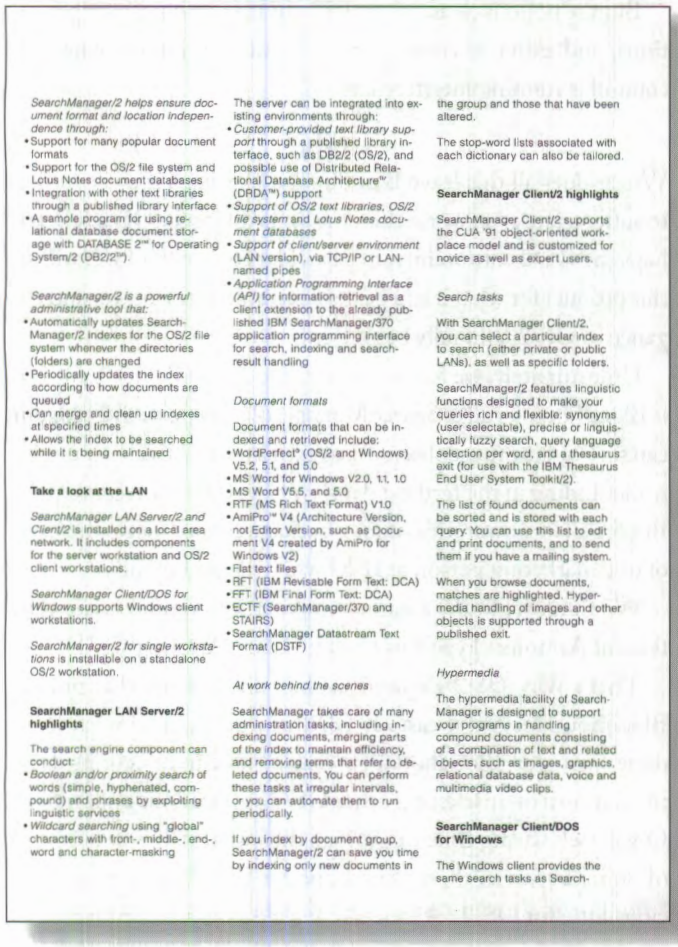
"SmartSuite didn't just appear," he adds. "It was based on the successful prior marketing of the individual applications, such as 1-2-3."

Contributing to the problem is the chaotic state of IBM management. Executives are constantly being moved around, reassigned, re-tasked. And all too often, newly installed managers know little about OS/2 and even less about the products it is their job to promote.

For example, Jon Priale, a likeable and well-respected IBMer, is a manager with key responsibility for marketing Bloodhound to the OS/2 community. He has held his current position since January. Priale confirmed in an interview that he doesn't know how many OS/2-specific magazines exist. Nor did he know how many people were currently using his product. We asked Priale, "How can you market a product if you don't even know how well it is selling?" He replied good-naturedly, "I apologize for not looking backwards. We are looking forward."

We also asked John Prestigiacomo, a marketing communications program manager with responsibility for Bloodhound's advertising, trade show presence, and publicity campaigns, about Bloodhound. But Prestigiacomo couldn't help, saying, "I am not involved with that product." He added, "I have never worked with the product, so I can't give you a fair analysis. I'm sure it's a wonderful product." When asked how a marketing communications program manager could oversee Bloodhound's marketing under such circumstances, he replied, "I am in marketing communications. But I have nothing to do with the marketing." Oh.

We put the same questions to product manager Warren Taylor. His reply? "I don't really know." Nor could he answer questions about marketing plans, budgets, or even what efforts have



SearchManager/2 helps ensure document format and location independence through:
- Support for many popular document formats
- Support for the OS/2 file system and Lotus Notes document databases
- Integration with other text libraries through a published library interface
- A sample program for using relational database document storage with DATABASE 2™ for Operating System/2 (DB2/2™).

SearchManager/2 is a powerful administrative tool that:
- Automatically updates SearchManager/2 indexes for the OS/2 file system whenever the directories (folders) are changed
- Periodically updates the index according to how documents are queued
- Can merge and clean up indexes at specified times
- Allows the index to be searched while it is being maintained

Take a look at the LAN

SearchManager LAN Server/2 and Client/2 is installed on a local area network. It includes components for the server workstation and OS/2 client workstations.

SearchManager Client/DOS for Windows supports Windows client workstations.

SearchManager/2 for single workstations is installable on a standalone OS/2 workstation.

SearchManager LAN Server/2 highlights

The search engine component can conduct:
- *Boolean and/or proximity search* of words (simple, hyphenated, compound) and phrases by exploiting linguistic services
- *Wildcard searching* using "global" characters with front-, middle-, end-, word and character-masking

The server can be integrated into existing environments through:
- *Customer-provided text library support* through a published library interface, such as DB2/2 (OS/2), and possible use of Distributed Relational Database Architecture™ (DRDA™) support
- *Support of OS/2 text libraries, OS/2 file system* and *Lotus Notes document databases*
- *Support of client/server environment* (LAN version), via TCP/IP or LAN-named pipes
- *Application Programming Interface (API)* for information retrieval as a client extension to the already published IBM SearchManager/370 application programming interface for search, indexing and search-result handling

Document formats

Document formats that can be indexed and retrieved include:
- WordPerfect® (OS/2 and Windows) V5.2, 5.1, and 5.0
- MS Word for Windows V2.0, 1.1, 1.0
- MS Word V5.5, and 5.0
- RTF (MS Rich Text Format) V1.0
- AmiPro™ V4 (Architecture Version, not Editor Version, such as Document V4 created by AmiPro for Windows V2)
- Flat text files
- RFT (IBM Revisable Form Text: DCA)
- FFT (IBM Final Form Text: DCA)
- ECTF (SearchManager/370 and STAIRS)
- SearchManager Datastream Text Format (DSTF)

At work behind the scenes

SearchManager takes care of many administration tasks, including indexing documents, merging parts of the index to maintain efficiency, and removing terms that refer to deleted documents. You can perform these tasks at irregular intervals, or you can automate them to run periodically.

If you index by document group, SearchManager/2 can save you time by indexing only new documents in the group and those that have been altered.

The stop-word lists associated with each dictionary can also be tailored.

SearchManager Client/2 highlights

SearchManager Client/2 supports the CUA '91 object-oriented workplace model and is customized for novice as well as expert users.

Search tasks

With SearchManager Client/2, you can select a particular index to search (either private or public LANs), as well as specific folders.

SearchManager/2 features linguistic functions designed to make your queries rich and flexible: synonyms (user selectable), precise or linguistically fuzzy search, query language selection per word, and a thesaurus exit (for use with the IBM Thesaurus End User System Toolkit/2).

The list of found documents can be sorted and is stored with each query. You can use this list to edit and print documents, and to send them if you have a mailing system.

When you browse documents, matches are highlighted. Hypermedia handling of images and other objects is supported through a published exit.

Hypermedia

The hypermedia facility of SearchManager is designed to support your programs in handling compound documents consisting of a combination of text and related objects, such as images, graphics, relational database data, voice and multimedia video clips.

SearchManager Client/DOS for Windows

The Windows client provides the same search tasks as SearchManager Client/2. The administration functions are available in SearchManager LAN Server/2.

National Language Support

National Language Support (NLS) for the user and administration interfaces covers the following languages: English, French, German, Italian and Spanish. All menus, help screens and user messages are translated.

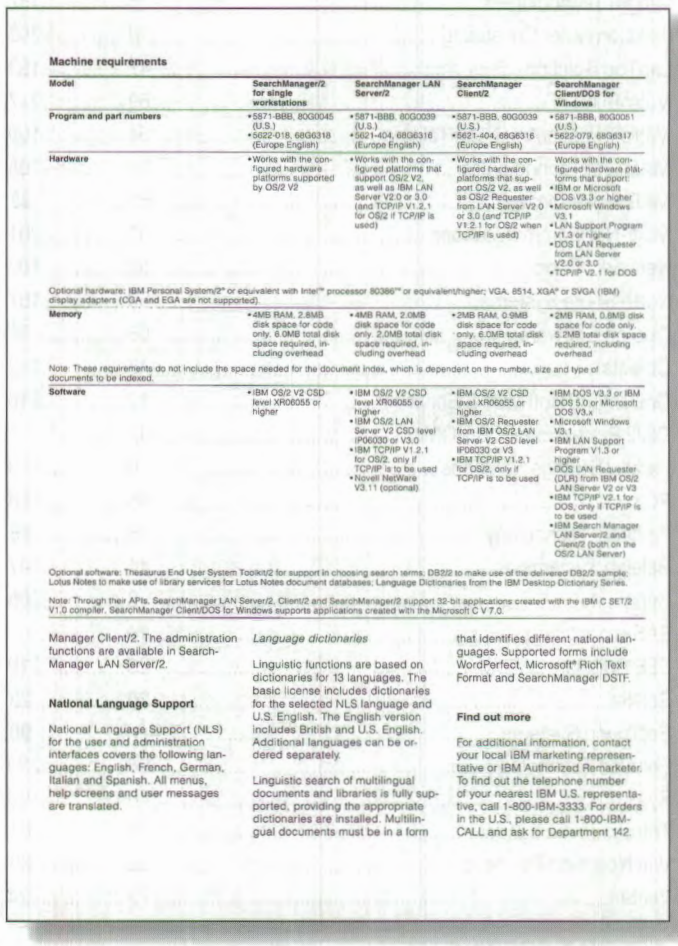
Language dictionaries

Linguistic functions are based on dictionaries for 13 languages. The basic license includes dictionaries for the selected NLS language and U.S. English. The English version includes British and U.S. English. Additional languages can be ordered separately.

Linguistic search of multilingual documents and libraries is fully supported, providing the appropriate dictionaries are installed. Multilingual documents must be in a form that identifies different national languages. Supported forms include WordPerfect, Microsoft® Rich Text Format and SearchManager DSTF.

Find out more

For additional information, contact your local IBM marketing representative or IBM Authorized Remarketer. To find out the telephone number of your nearest IBM U.S. representative, call 1-800-IBM-3333. For orders in the U.S., please call 1-800-IBM-CALL and ask for Department 142.



Machine requirements

Model	SearchManager/2 for single workstations	SearchManager LAN Server/2	SearchManager Client/2	SearchManager Client/DOS for Windows
Program and part numbers	• 5871-BBB, 80G0045 (U.S.) • 5622-018, 68G6318 (Europe English)	• 5871-BBB, 80G0039 (U.S.) • 5621-404, 68G6316 (Europe English)	• 5871-BBB, 80G0039 (U.S.) • 5621-404, 68G6316 (Europe English)	• 5871-BBB, 80G0051 (U.S.) • 5622-079, 68G6317 (Europe English)
Hardware	• Works with the configured hardware platforms supported by OS/2 V2	• Works with the configured platforms that support OS/2 V2, as well as IBM LAN Server V2.0 or 3.0 (and TCP/IP V1.2.1 for OS/2 if TCP/IP is used)	• Works with the configured hardware platforms that support OS/2 V2, as well as OS/2 Requester from LAN Server V2.0 or 3.0 (and TCP/IP V1.2.1 for OS/2 when TCP/IP is used)	Works with the configured hardware platforms that support: • IBM or Microsoft DOS V3.3 or higher • Microsoft Windows V3.1 • LAN Support Program V1.3 or higher • DOS LAN Requester from LAN Server V2.0 or 3.0 • TCP/IP V2.1 for DOS
Optional hardware: IBM Personal System/2® or equivalent with Intel™ processor 80386™ or equivalent/higher; VGA, 8514, XGA® or SVGA (IBM) display adapters (CGA and EGA are not supported).				
Memory	• 4MB RAM, 2.6MB disk space for code only, 6.0MB total disk space required, including overhead	• 4MB RAM, 2.0MB disk space for code only, 2.0MB total disk space required, including overhead	• 2MB RAM, 0.9MB disk space for code only, 6.0MB total disk space required, including overhead	• 2MB RAM, 0.8MB disk space for code only, 5.2MB total disk space required, including overhead
Note: These requirements do not include the space needed for the document index, which is dependent on the number, size and type of documents to be indexed.				
Software	• IBM OS/2 V2 CSD level XR06055 or higher	• IBM OS/2 V2 CSD level XR06055 or higher • IBM OS/2 LAN Server V2 CSD level IP06030 or V3.0 • IBM TCP/IP V1.2.1 for OS/2, only if TCP/IP is to be used • Novell NetWare V3.11 (optional)	• IBM OS/2 V2 CSD level XR06055 or higher • IBM OS/2 Requester from IBM OS/2 LAN Server V2 CSD level IP06030 or V3 • IBM TCP/IP V1.2.1 for OS/2, only if TCP/IP is to be used	• IBM DOS V3.3 or IBM DOS 5.0 or Microsoft DOS V3.x • Microsoft Windows V3.1 • IBM LAN Support Program V1.3 or higher • DOS LAN Requester (DLR) from IBM OS/2 LAN Server V2 or V3 • IBM TCP/IP V2.1 for DOS, only if TCP/IP is to be used • IBM Search Manager LAN Server/2 and Client/2 (both on the OS/2 LAN Server)
Optional software: Thesaurus End User System Toolkit/2 for support in choosing search terms; DB2/2 to make use of the delivered DB2/2 sample; Lotus Notes to make use of library services for Lotus Notes document databases; Language Dictionaries from the IBM Desktop Dictionary Series.				
Note: Through their APIs, SearchManager LAN Server/2, Client/2 and SearchManager/2 support 32-bit applications created with the IBM C SET/2 V1.0 compiler. SearchManager Client/DOS for Windows supports applications created with the Microsoft C V 7.0.				



For additional information about an advertised product or service, circle the number. When you circle a number, you not only gain access to valuable information, you demonstrate to the advertisers that their support for *OS/2 Professional* gains them an important visibility in the OS/2 market. To subscribe, check the subscription box, and fill out the qualifying information required to fulfill all subscription requests.

ADVERTISER	PAGE	NUMBER
Ariel Design	41	170
BonAmi	25	2
CEnvi for OS/2 by Nombas	51	215
CorelDRAW	72	5
DeScribe	47	7
Diacoustics	46	212
Gpf Systems	50	12
IBM Personal Software Products	62	
IBM C Set ++ bundle	61	114
IBM PSP Catalog	56	64
IBM Cad/3x	69	196
Integra Technologies	16	187
J&J Computer Consulting	19	202
LapTop Solution	47	193
MicroBurst	69	217
Microformatic/American Telerep	64	109
Millenium Technologies	24	205
MSR Development	65	33
Multi-Net Communications	51	201
Networks Expo	52	183
North Shore Systems	50	167
Oberon Software	66	34
Objects ++	48	112
OnDemand Software & Services	12	216
OS/2 Professional CD ROM	42	
Parallel Storage Solutions	6	113
PCX	45	123
Pinnacle Technology	18	88
Raleigh Systems	44	147
Reply	8	208
SAS	14	
SEE Software	23	219
SofNet	20	23
SofTouch Systems	4/19	98
Solution Technology	68	220
Sys Ed	46	190
Tritus	10	65
Van Nostrand Reinhold	68	39
Veritas	71	224

already been undertaken on Bloodhound's behalf. Taylor didn't even the know the name of his own advertising agency.

Where then do accountability and the IBM marketing executive come together? In the case of Bloodhound, seemingly they don't. Instead, and all too often, they hide behind the brightly colored sweaters, cheerful smiles, and the skirts and slacks of skilled media spokesmen and -women. One consistent player in IBM's expensive marketing failures is its stable of high-priced public relations firms such as Brodeur & Partners.

Brodeur came late to the Bloodhound debacle, but its attempts at catch-up—or perhaps anatomy-covering—have been notably heavy-handed. A Brodeur rep repeatedly tried to control which IBM executives we interviewed, invoked the specter of advertising that would not run, and sat in and tried to control our interviews.

To be fair to Brodeur, *OS/2 Professional* deals with a fleet of Brodeur representatives several times each day. They are generally easy to work with and good facilitators. No one at Brodeur has ever before obstructed an interview or tried to preface a response to a press query with a warning about advertising.

But the point is clear. It's easier to hide from hardhitting questions, and easier to cover up poor marketing efforts, when PR counsel is running interference.

Coda

Where does all this leave Bloodhound? Perhaps it will continue to suffer a fate even worse than the SmartSuite for OS/2. Or perhaps the OS/2 community, in particular corporate OS/2, will see this product for what it is: a perfect example of the power and elegance of OS/2, and rally behind it.

Unfortunately, we fear we know Bloodhound's fatal flaw. Call it Bloodhound, call it SearchManager/2, this powerful program can seek out the most obscure usages of a term in the most unlikely files hiding in the farthest depths of any distributed enterprise. But for all its power, this unique package cannot locate the name of one marketing person at IBM who will get behind it.

We think we know a name, however. He works on the third floor at Armonk. Type this one in: "Louis A. Gerstner."

That's why *OS/2 Professional* has undertaken this project. Bloodhound is a test case. If IBM can understand what it has done wrong on Bloodhound, it may be able to reverse its disastrous record on marketing other OS/2 applications and, indeed, OS/2 itself. If Big Blue cannot see the ingrained error of its way of doing business, there is no hope for Bloodhound—and precious little for OS/2. ◆



Playing Games with OS/2

Since OS/2's preemptive, priority-driven multitasking makes it an ideal advanced game platform, the future looks bright for a group of game titles due on the market soon.

BY MICHAEL S. KOGAN

This summer will see the arrival of SimCity Classic and Galactic Civilizations for OS/2, bringing a whole new meaning to "playing with OS/2." These will be the first significant game titles to reach the OS/2 platform. SimCity Classic was developed for OS/2 by Dux Software, and Galactic Civilizations by Stardock Systems; both are being published by Advanced Idea Machines (AIMS).

AIMS anticipates having four additional OS/2 game titles out by the holiday season, and more than a dozen by next spring. Karisama (Japanese for Lord Wild Goose) is the code name for an upcoming ground combat simulation in the genre of Perfect General but a richer and more robust simulator. AIMS-Salso has in the works a simple game suite, a submarine simulation, and a flight simulator.

A version of the latest SimCity product from Maxis, SimCity 2000, and an OS/2 version of Id Software's Doom are also reported to be in development.



The new version of Sim City Classic brings to OS/2 users the opportunity to grapple with real life urban scenarios such as skyrocketing crime rates and limited budgets.

Advanced Games and Platforms

Simulations, large-scale strategy games, and adventure games are advanced games. All must manage a large amount of statistical data and access large multimedia objects rapidly to interact with and entertain the user. At the implementation level, this calls for the ability to preemptively multitask, megabytes of memory, and work on a vast installed base of 32-bit x86 systems with varying sound cards, CD players, video adapters and displays.

Most of today's advanced games are developed with 32-bit DOS extender technology and are targeted specifically for x86-based PC systems. The 32-bit DOS extender gives developers access to full memory resources and a flat programming model, but they typically must implement their own multitasking, device support, and extendibility.

This "roll-your-own" approach can produce high-level performance, but coping with hardware configuration and device support can be problematic. And with multimedia features becoming more prevalent in games, device and media format support are getting more complex.

An alternative to the roll-your-own approach is to use an advanced game platform that has built-in multitasking, memory management, multimedia support, and device independence. Such a platform allows game developers to focus more on the game and less on the infrastructure, and potentially increases marketability by leveraging the game across hardware platforms. Although the game's performance may be slightly less optimal as a result of its reliance on the platform's generalized functions, development costs and time-to-market are reduced, giving small game developers greater opportunities.

OS/2 Stands Out

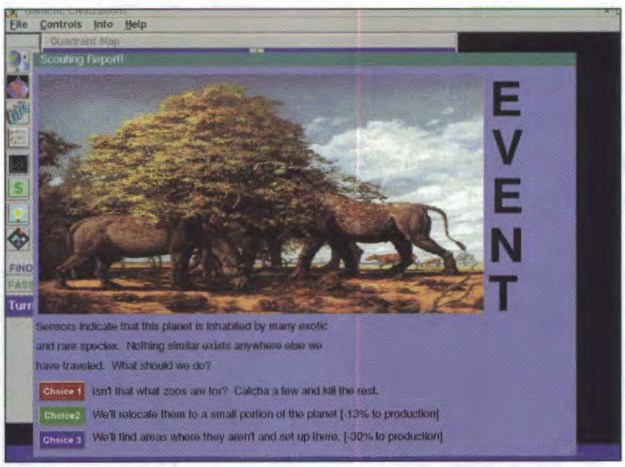
OS/2 is an ideal advanced game platform. Its preemptive, priority-driven multitasking allows game developers to overlap the

execution of the game engine while interacting with the user. Concurrently updating multiple views and responding rapidly to multiple user controls is a piece of cake for OS/2. And the use of background threads improves game playability and depth.

The 32-bit flat memory model of OS/2 provides high-level memory performance on x86 architectures, and it is the foundation for the portability of the system's API. Since the API is both processor-independent and device-independent, game implementations can exploit a wide variety of sound cards, video displays, and standard multimedia formats, and can do so transparently. Game development time is also reduced. And, not so incidentally, the implementation will be positioned to exploit OS/2 for the PowerPC.

In addition, the extendibility of OS/2 using DLLs and SOM makes it simpler to produce a game architecture that supports the replacement or upgrading of game components such as artificial intelligences and scenario editors.

OS/2 does need some enhancements to its graphics interfaces to support shoot-'em-up-style action games. Games that must process high-speed graphics rendering algorithms to animate action and scenery need some kind of trap door through the user interface to the graphics driver—without compromising on video display and resolution independence. And as speech technology matures and the hardware required for speech becomes less expensive, OS/2 will have to support the inevitable speech enabling of games.



Galactic Civilizations for OS/2 is the first of a raft of new games that will allow multithreading, 32-bit exploration of the universe.

A Strong Business Case

With its more than five million installations in homes and businesses, a strong case can be made for OS/2 2.x as an advanced game platform. Technically, its native programming model more than meets all the requirements—it's quite stable and mature, and has plenty of device support. The business case for an OS/2 game also looks positive—if a game that retails for about $30 reaches 20 percent of the OS/2 desktops, we're talking $30 million. Surely one could develop, distribute, and market an OS/2 game for $1 million?

For other advanced platforms such as Windows NT, Unix, and Chicago, the picture is not yet as rosy. Neither Windows NT nor Unix really has sufficient volume, and Chicago is not yet available.

Small game developers are leading this first wave of OS/2 games slated for the second half of 1995 and early 1996, delivering cross-licensed ports of popular titles and some unique titles that will appear first on OS/2 (yes, as native applications).

But veteran game developers such as Sierra On-Line, Electronic Arts, Microprose, Maxis, and Id Software are watching this market carefully, for two reasons: as a near-term business opportunity, and as a potential strategy, via Workplace OS, for reaching game players on emerging RISC-based PC platforms.

Entertainment titles bring enhanced value to the OS/2 platform; an enticing array of well-designed and powerful games would unquestionably strengthen OS/2 in consumer markets. And then the existing game support channels, including bulletin boards and public access networks like CompuServe, will become marketing channels, generating a new community of interest and involvement in OS/2.

According to AIMS, almost half of the participants in the beta program for SimCity and Galactic Civilizations bought OS/2 to run the beta versions, despite the fact that a DOS version has been available for some time. If this is any indication of what acceptance of the final products and other advanced OS/2 games will mean, the future looks bright indeed. ◆

At a Glance

Advanced Idea Machines, Inc.
12155 Mountain Shadow Rd.
Sandy, UT 84092
(801) 572-4018
fax (801) 571-8625
SimCity Classic: $45-$50 (anticipated)
Galactic Civilizations: $55-$65 (anticipated)

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File Servers & Workstations

Ariel 486SX-33VLB Desktop $1545

Intel 486SX-33VLB ETG Motherboard
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260 MB IDE Seagate Hard Drive
Cirrus Logic-VLB, 1 MB DRAM
CTX 14" Monitor 1024 NI
MS WinWG 3.11; MS DOS 6.2
Keytronics 101 Keyboard, MS Mouse-2B

Ariel 486DX2-66VLB Workstation $2995

AMI Super Voyager II VLB, 256k Cache
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1.44 Meg TEAC
528 Meg IDE Seagate Hard Drive
ATI UltraPlus VLB 2 Meg DRAM
17"S Hitachi 1280 .26dp Monitor
MS WinWG 3.11; MS DOS 6.2
Keytronics 101 KeyBoard; Logitech MS

Ariel P-90 PCI/ISA Workstation $4995

Micronics 90MHz Pentium™ Processor
P90 PCI/ISA Motherboard, 256k Cache
16 Meg 70ns RAM; 6-Bay 250 Watt PS
1.44 Meg TEAC
1.6 Gig Fast SCSI II HD 10ms
Future Domain PCI/SCSI Controller
ATI Win Turbo 64-bit PCI 2Meg VRAM
17"S Hitachi 1280 .26dp Monitor
MS WinWG 3.11; MS DOS 6.2
Keytronics 101 KeyBoard; MS Mouse 2-B

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486DX-66 Super Voyager II VLB, 256k
486DX-66 Enterprise IV, EISA/VLB 256k
Excalibur VLB Pentium 60 MHz 256k
Excalibur PCI/ISA Pentium 60 MHz 256k
Excalibur PCI/EISA Pentium 60 MHz 512

Micronics Motherboards
PCI/ISA Pentium 90 256k

Hard Drives

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Seagate SCSI II Fast/Wide
Digital SCSI II
Micropolis SCSI II

Graphics Cards

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ATI - WinTurbo 64-Bit VLB/PCI - 2 Meg/4 Meg VRAM
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Software for OS/2

REXX Redux

Three powerful products vie for the title of best programming environment for users.

BY RICH MALLOY

Last fall, we reviewed the first two implementations of "Visual REXX"—visual programming tools from Watcom and HockWare that allow ordinary users to create sleek GUI applications based on OS/2's powerful macro language, REXX. The term Visual REXX is fitting since these products threaten to do for REXX what Visual Basic did for Bill Gates's favorite language.

Early this year, the two companies enhanced their already impressive products, Watcom's VX-REXX and HockWare's VisPro/REXX, with version 2.0 releases. And to make things even more interesting, a third entry, GpfRexx, a REXX version of the Gpf programming environment for C, joined the REXX arena.

REXX 101

First, let's talk a little bit about the language itself. REXX is designed for the rest of us. Like BASIC, it uses English commands, with the barest minimum of punctuation marks and parentheses. But unlike BASIC, REXX gives you full access to the operating system. Anything you can do from the OS/2 command line, you can do with REXX: Rename files. Run programs. Whatever.

One of the really elegant things about REXX is its philosophy of not reinventing the wheel. None of the three products being reviewed here replaces the REXX processor that IBM included with OS/2. Each simply sits on top of that REXX processor and makes use of it as needed.

Indeed, the three products under study here use REXX in much the same way that an application program might use REXX as a macro language. For example, a developer can equip an OS/2 communications program with a REXX macro language by simply supplementing REXX with a few procedures and keywords specialized for communications work (an example is PMComm, reviewed on p. 56 of the February issue).

The resulting script language not only handles communications tasks, but also inherits all of REXX's other features, such as high precision arithmetical capabilities and file management. Thus, in the process of logging into the information superhighway, you can access the operating system to read and write files for usage logs, password control, or whatever tasks you may dream up.

How can a lowly log-on script control the operating system? The answer is ingeniously simple: If the comm program cannot understand a given REXX macro command, it simply passes it down to the OS/2 REXX processor. If the REXX processor doesn't understand it, the command is passed down even further, to the operating system. And if the operating system doesn't

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understand it, you get the very familiar SYS1041 message ("The name specified is not recognized").

Containers and Multimedia

The major enhancements found in the new generation of visual REXX programming environments allow you to produce apps that can feature just about any OS/2 special effect that can be produced with more traditional languages. For example, all three environments now offer new types of controls, including sliders, notebooks, and containers. Sliders are fairly simple, and notebooks should be very familiar to anyone who has played with OS/2 for any length of time.

The containers are an interesting concept that could be quite useful for innovative database applications. A container is simply a set of data that can be displayed either as a table or as a collection of icons. A Workplace Shell file folder is a familiar example of a container. A more interesting implementation of container usage is a real estate application where each house appears as one of several different types of icons.

To further enhance such applications, all of the environments sport some type of multimedia capability. And two of the products allow you to create standalone .EXE files, obviating the need for you to distribute .DLL files with your finished apps.

The Long-Filename Test

To evaluate these products, I sketched out a simple but useful utility program that would make good use of REXX's features. The program would be a front-end to a word processor: you would access files by selecting long file names. The program would effectively allow even Windows or DOS programs to benefit from the use of long file names.

It functions as follows: When the program starts up, it reads a list of long and short file names from a disk file. The long names are placed in a combo box, allowing the user to add new names easily. The short names are stored in a "compound variable"—a REXX feature that acts something like an array. The compound variable establishes a direct link between a short filename and a long name, without any intervening index. This

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is an important and relatively rare feature of REXX.

Note that no matter how many new long names are inserted into the combo box—or where they are inserted—the short names always stay tied to the proper long name. To open a selected long file name, you press a button that causes the program to pass a command to the operating system—another REXX specialty—loading a given word processor with the short filename as a parameter.

VX-REXX

Last year, I was particularly impressed with Watcom's VX-REXX. *OS/2 Professional* awarded it the "Best New Development Tool," which was soon followed by a similar award from *PC Magazine*. Its interface is still the most similar to Visual Basic's.

Version 2.0 sports the new controls mentioned above. It also features DDE and Q+E Database support. And, in response to VisPro/REXX, VX-REXX now supports "drag-and-drop" programming: just drag the desired control into the code window, select the desired event, and the proper code segment automatically appears. All you have to do is change the variable names, if that. In the new version, VX-REXX remains a sturdy and relatively dependable programming tool. Its only deficiency is that it will not let you create a standalone .EXE file.

VisPro/REXX

With the new version, HockWare has greatly improved VisPro/REXX. Its innovative and useful drag-and-drop programming feature remains a strong selling point. The new product also features a sleeker interface, more controls, and the ability to create multithreaded applications. HockWare also includes a very impressive tutorial/demo program.

Two versions are available: the standard Bronze edition ($99), and the Gold edition ($299), which offers new controls (slider and container), 3-D business graphics, and multimedia support. The Gold edition also lets you visually design IBM DB2/2 databases. I particularly enjoyed the drag-and-drop programming feature. VisPro/REXX now appears to be as good as VX-REXX and should be a clear favorite in applications involving DB2/2.



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A BRIEF LIST OF PRODUCTS THAT SUPPORT REXX

These are some of the OS/2 products that use the REXX programming language.

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TE/2	Oberon
Tritus SPF	Tritus
XDB-QMT	XDB Systems

GpfRexx

The key strength of GpfRexx is its link to the Gpf C++ programming environment. Once you have created an application in GpfRexx, you can port much of it over to C++ fairly easily. Note, however, that you will have to translate your REXX code into C.

When you create an app, GpfRexx performs most of the routine chores for you automatically. It creates a bare bones application, complete with opening logo window and the obligatory File and Help menus at the top of the main window. There is even a default copyright notice for you to use.

GpfRexx is an impressive, powerful program, but it suffers from a formidable weakness—its manual. The bulk of this book is devoted simply to explaining the program's many menu options and dialog boxes. Much of this seemed superfluous—especially the 18 separate paragraphs devoted to explaining what the Cancel button did in various dialog boxes. Meanwhile, I had a great deal of trouble finding out more crucial points, such as how GpfRexx handles global variables.

C programmers who want to prototype in REXX will find great value in GpfRexx. Others will probably want to wait for an updated version with a better manual.

REXX Refinements

The products mentioned here run on top of the REXX processor that IBM included with OS/2. Because of REXX's unique philosophy, however, you can enhance each of these products by enhancing the underlying foundation. Quercus Systems (Saratoga, CA, (408) 867-7399), a venerable pioneer in the REXX world, provides two ways of doing this.

First, you can enhance the IBM OS/2 REXX processor with Quercus's REXXLIB for OS/2 ($50). This library contains a large number of additional functions (such as array sorting, named pipes, and trigonometric math). The second is to replace the IBM REXX processor altogether with Quercus's Personal REXX 3.0 for OS/2 ($175). Personal REXX includes the REXXLIB library, promises better performance than the IBM version, and provides much better documentation.

Quercus also offers versions of Personal REXX for DOS and Windows. But to port your REXX apps to those environments you will have to forego any GUI elements—at least until there is a Windows version of visual REXX.

The Poor Man's Visual REXX

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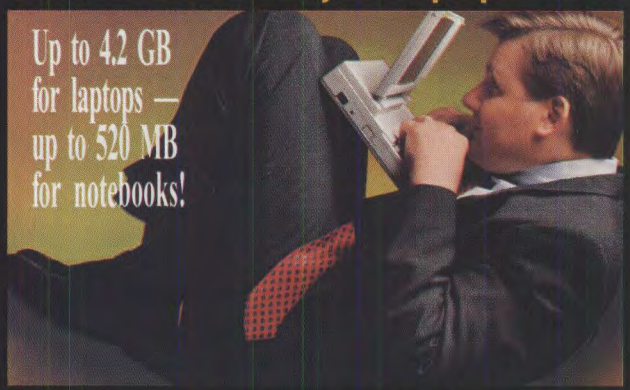
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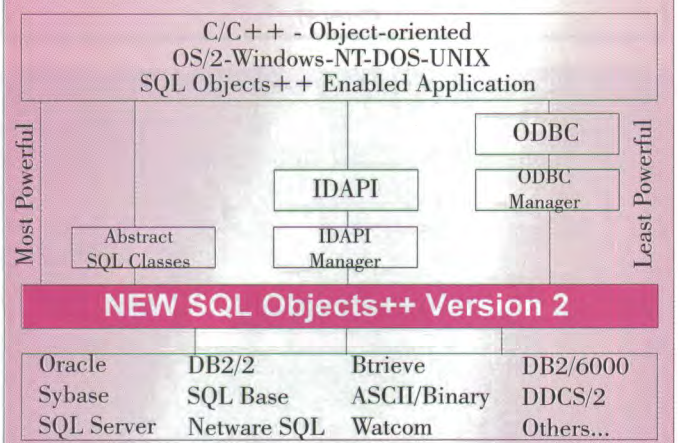
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on a very tight budget, you can even experiment with visual REXX for free (but you'll only get a taste of what is possible).

A simple IBM program called VREXX (available as VREXX2.ZIP on IBM's National Support Center BBS, (919) 517-0001, is an unsupported program that lets you add GUI-style controls (such as a list box or a file-selection dialog box) to your REXX programs. Forget about complex dialog boxes, however, and be prepared for a good amount of trial-and-error coding. In fact, for what it costs in downloading time, you might be better off investing your money in VX-REXX or VisPro/REXX.

REXX Reading

In an ideal world, IBM would flood us with ample reading material extolling the significant benefits of REXX. After all, REXX was developed in IBM and it has a perfect right to boast about it. But, it is not an ideal world. To program in REXX, you need a good reference book (the on-line reference really doesn't cut it), and to find good books on REXX, you have to hunt them down.

The bible in this area is *The REXX Language*, by Michael Colishaw, the person who invented the language. Parts of this book, by the way, are replicated in the on-line REXX documentation that comes with REXX.

For general REXX programming information, I recommend *Programming in REXX,* by Charles Daney, who happens to be the president of Quercus and one of the language's chief proponents. (Rick Cook reviewed another REXX handbook, *Mastering OS/2 REXX* by Gabriel F. Gargiulo in the May issue.)

If it sounds like I'm stoked on REXX, I am. It's a great language, worthy of our support. If you find yourself doing the same file-management chore over and over again, automate the process with a REXX macro. If you need to create a more involved program, try VX-REXX or VisPro/REXX. And when you buy an OS/2 app, be sure it uses REXX as its macro language. What OS/2 needs most is some good apps. And REXX is a great language for providing them. ◆

Rich Malloy is Editor-in-Chief of Portable Computing.

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Michael Colishaw, *The REXX Language: A Practical Approach to Programming,* Englewood Cliffs (NJ): Prentice-Hall. 1990. 224 pp, $41. Call (515) 284-6751.

Charles Daney, *Programming in REXX,* New York: McGraw Hill. 1992. 320 pp, $45. Call (800) 822-8158.

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The NT-OS/2 Connection

Does Microsoft Windows NT Advanced Server deserve a place on your LAN? That depends, as always, on what you need to do.

BY WAYNE RASH JR.

Ever since Microsoft announced its Windows NT 32-bit operating system a couple of years ago, OS/2 users have viewed the product with some suspicion. After all, OS/2 and Presentation Manager make a fine 32-bit operating system in its own right, and the user interface can do some things that Windows NT cannot. Why make the switch?

In fact, there are relatively few people, OS/2 users or not, who thought using Windows NT as a workstation package made good sense. As a result, sales of NT have disappointed Microsoft. On the other hand, sales of Windows NT as a network resource have been strong, according to industry observers. While nothing Microsoft has done is likely to threaten industry leader Novell's immense 75 percent market share, the Windows NT Advanced Server is still making inroads both as a file and print server, and perhaps more importantly, as an application server.

For OS/2 users especially, using Windows NT on the company network can make a lot of sense. According to Marc J. Gusman, director of consulting for the Lante Corporation, a Chicago-based systems and network integration firm known for its expertise in integrating diverse environments, the scalability of Windows NT is particularly attractive.

Gusman also notes that integrators like the fact that NT supports all three of the top network protocols transparently. This means that an NT Advanced Server can fit right into a NetBEUI LAN, such as the kind usually used by OS/2 LAN Server. Likewise, NTAS can work in TCP/IP and IPX networks with Unix and NetWare servers, respectively (although many LAN Server users have moved to TCP/IP as well).

"The biggest reason is scalability," Gusman points out. He notes that in terms of its ability to move to larger systems, NTAS resembles Unix, but adds that most people are more comfortable with the NT product than with Unix.

Microsoft's Windows NT Advanced Server product manager, James D. Ewel, says that scalability is an important issue. He says that while most users of NT run the package on Intel-based systems like the ones they use to run OS/2, it will support larger applications as well. "If they want a RISC-based server, they can use a DEC Alpha, or a MIPS R4000," Ewel notes. He adds that IBM will be delivering Windows NT on its Power PC workstations a few weeks after version 3.5 of NT is released.

Ewel says that combined with its performance as a server, the scalability of Windows NT means that companies can use NTAS to support operations larger than they're used to seeing on PC-based systems. "We have a dual-Pentium server that hits peaks of 800 to 900 users," Ewel notes. He adds that for more traditional file and print serving, most companies plan on 100 to 150 users per server.

Looking at NTAS

As a way to learn more about the NT Advanced Server, we installed two versions of the product, the current released version of Windows NT Advanced Server 3.1, and a beta version of Windows NT Advanced Server version 3.5. Both products were installed on Gateway 2000 486DX2/66 computers with 320mb hard disks and 32mb of RAM. Each used an Intel EtherExpress 16 LAN card, and were placed into service on a network already running Novell NetWare 3.12 on two servers.

Both versions of NTAS worked as a file and print server on a NetBEUI network, and as an application server on TCP/IP, IPX/SPX, and NetBEUI networks. We performed a series of tests using both the NetBEUI that is normally used with OS/2 LAN Server networks and the NetBEUI client for OS/2 delivered with NTAS version 3.5—the latter with the version 3.5 software only.

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ronment in the same manner as it would were it an OS/2 LAN Server platform. From Presentation Manager, it's simply an icon just like any other network resource. OS/2 sees the file and print services, but the fact that it's NT on the other end does not affect its transparency.

Getting NT Up

Installing NT on most Intel-based server platforms is very straightforward. The Microsoft installer can detect most hardware itself and perform the required steps without intervention, although you have the opportunity to perform a custom installation if you want to do so. NTAS is available on either CD-ROM or diskettes. We installed the CD-ROM version. (Note that like OS/2, NT supports SCSI-based CD-ROM drives. You can use a non-supported CD-ROM drive for the installation if you start by booting MS-DOS and accessing it through the CD-ROM extensions supported by most manufacturers, but once NT is installed, they will no longer be available to the operating system.)

The CD-ROM installation mostly involves waiting while several megabytes of files are copied to the hard disk, and while NT makes three boot diskettes and an emergency repair diskette. Once that's done, most of the work involves making sure the NT installer guessed right when it looked at the hardware. In the installations we attempted, it worked perfectly, even choosing the non-standard address and interrupt settings we had configured on the Intel network cards.

The configuration process gives you the chance to specify what LAN protocol you'll be using on your network. Setting up NetBEUI is a straightforward process familiar to most OS/2 users on networks. You'll need to decide whether the NTAS machine is a domain controller or a backup server, and fill in a dialogue box accordingly. In addition, you'll need to specify any attached printers or other resources.

Adding the Novell NetWare drivers is a bit more complex, because NTAS can interact with NetWare as an application server, as a client, and as a gateway to NetWare services. This means that you'll need to install the Novell protocol support and then add the client software. Finally, you'll need to configure the NetWare gateway.

The NTAS NetWare gateway can add a great deal of flexibility to multi-protocol networks. Users that normally use only NetBEUI can use this facility to gain access to NetWare services, including file and print services as well as communications ser-

vices, without needing to run any Novell client software. This makes workstation setup easier, and it conserves memory on the workstations, since users won't have to keep both client software packages loaded.

Setting up a TCP/IP server is more complex, because defining the required IP addresses is complex. Worse, if the server is going to be available to outside users, perhaps those on the Internet, unique IP addresses must be selected and registered—a process that can take weeks.

A Transparent Relationship

Once the Windows NT Advanced Server is running and on your network, your users can essentially ignore that it's there. Microsoft worked hard to make sure that NTAS would blend into most environments, and in this it succeeded. More importantly, Microsoft succeeded in delivering a collection of features most companies, including those with OS/2-based networks, really need:

- Scalability. You can use Windows NT Advanced Server on anything from an Intel 80386 to a multiple processor PowerPC or Alpha machine. Applications will run on any of them, and any of them will interact with your network the same way.
- Flexibility. You can use any of the three major LAN protocols transparently.
- Cost. At $1,495 per server, it's really cheap. This is Microsoft's effort to drag a little market share away from Novell.
- Security. Microsoft promises government-quality security, but it's worth looking at anyway. It's at least as secure as OS/2.
- Ease of Use. If you need scalability, your other choice is Unix, since scalable versions of OS/2 are still a ways off.

Does Microsoft Windows NT Advanced Server deserve a place on your LAN? That depends, as always, on what you need to do. In many cases, though, unless you need a service that's specifically supported by OS/2 or NetWare, the answer could be that it does. Microsoft has delivered a capable server product that fits well into an OS/2 environment. ◆

At a Glance

Windows NT Advanced Server: $1,495
Microsoft Corporation
One Microsoft Way
Redmond, WA 98052
(206) 882-8080

CEnvi for OS/2

There are a million solutions in this little tool. Here are a few to get you started:

#77 SESSION: Start any application specifying Size, Position, Title. Font Size, DOS settings, etc... with or without WPS
#58 NUMLOCK: Maintain NUMLOCK on for all session.
#87 UNHANG: Prevent WPS lockups
#48 KEYPUSH: Emulated keystroke control of any window
#22 DOMENU: Automated menu selection for PM applications
#61 OS2DEMO: Show this to Windows users & watch them drool
#91 WIN BOSS: Automated control of WINOS2 sessions through keyboard, menu and dialog control, and Windows functions

CEnvi interprets the Cmm macro language to enhance batch/REXX files or to create new utilities. With over 150 built-in functions, and links to any OS/2 or DLL function, there is no limit to your CEnvi scripts.

Available from: The Corner Store (1-800-I BUY-OS2) or OS/2 EXPRESS (1-800-OS2-KWIK)

For more information about CEnvi, multi-user licensing, or to learn about incorporating the Cmm macro language into your application, contact: **Nombas**
at CompuServe:72212,1622; Internet: bsn@world.std.com:
Phone: 1-617-391-6595 (9-5 EST)
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✔ Designed to be very configuable, yet easy to install and maintain. ✔ External programs can be executed directly from the main menu as well as from displayed files. ✔ REXX programs can be used as external programs, allowing you to access SQL data bases, OS/2 commands, as well as most BBS functions including file transfer protocols. ✔ LAN version allows workstations on the LAN to log onto the BBS directly without using a modem because all the BBS functions can be accessed this way (including E-mail) ✔ Ideal for product support.

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SCOOPS

Beta is Bucks

DeScribe, Inc. is currently in the midst of an unusual beta program for the latest version of its word processor, DeScribe 4.1. Following the company's reorganization in May, marked by the departure of President Allan Katzen, the company is aggressively seeking cash by selling beta copies of its new release.

The product, dubbed by DeScribe CEO James Lennane a "bargain beta," is available for $179. For this, users receive an installable limited-life product, one that will cease functioning on Dec. 31, 1994. Before that happens, the company will ship users gold code for version 4.1 of the 32-bit native OS/2 word processor.

While this new approach, combining marketing and development tactics, may strike end users as unusual, it makes sense as a way to generate some cash flow while testing the true dimensions of the OS/2 marketplace.

In initial testing of DeScribe 4.1, *OS/2 Professional's* lab has found the beta to be stable. The main thing that seems to be keeping DeScribe 4.1 in beta is that it is not yet feature-complete. For example, the code that we tried did not yet include support for revision marks or the planned improvements (primarily a simplified interface) to the mail merge feature.

Several features place it on a competitive level with Microsoft Word 6.0. It automatically inserts true open and close quote marks and apostrophes as you type, for example. Another Word-like feature, automatic glossaries, expands abbreviations into full words and corrects common typos. The new release also sports a Words Proper Names menu item that lists all proper names used within a document and allows for speedy replacement.

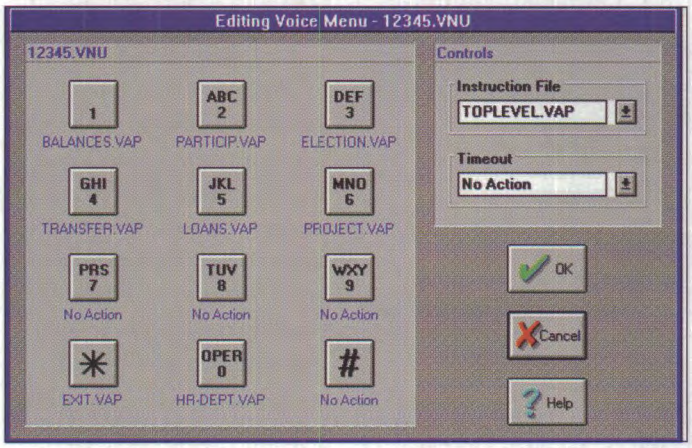
Foremost among the most demanded features is true footnotes. DeScribe 4.0 handled endnotes (references at the end of the document), but the 4.1 beta now gives you references at either the bottom of the page or the end of a document. Another feature, the equation editor, will not be quite as well integrated with the WPS as was first expected.

The DeScribe experiment, if done well, may help clarify the vitality and potential of the OS/2 marketplace. If there's little demand for a full-featured native OS/2 word processing application, the critics of IBM may well be proven right.

New Products

Listen up

Cascade Technologies, Inc. is now shipping Cascade Voice Tools version 2.01. At the heart of this application generator for interactive voice response systems is the Cascade Call Center. This environment integrates Cascade Voice Tools with call distribution logic, caller data, and existing administrative/customer service systems used by customer service representatives. The product also includes a development module for scripting and recording as well as a runtime system that operates under OS/2 to provide simultaneous call processing options and database integration. Pricing starts at $2,300. Cascade Technologies, Inc., 1430 Broadway, 7th Floor, New York, NY 10018-3308, (212) 768-7380, fax (212) 768-7806.



Voice menus that mimic the telephone keypad are one of the visual models used by Voice Tools. The application generator attaches Voice Tools Commands or procedures to the telephone keys to build an application quickly. The voice menu above uses the system's call center option to transfer the call if "0" is selected.

Synchronize with Synchrony

Easel Corporation is now offering Synchrony, an object management system for corporate application developers.

This object oriented tool set integrates design, assembly, and reuse of business objects for building scalable enterprise client/server applications.

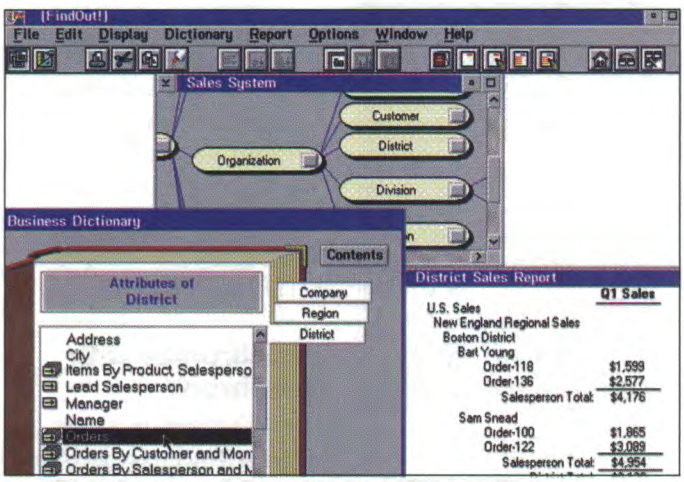
Synchrony was designed to help IS organizations migrate to distributed object computing through the use of modular packages that can be modified, manipulated, and recycled for future use. The software includes an Attribute Editor and an Event-Driven Methods Generator that enables developers to visually program the behavior of business objects. Synchrony supports OS/2 2.x and Windows 3.1. The OS/2 version is priced at $6,995. Easel Corporation, 25 Corporate Drive, Burlington, MA 01803, (617) 221-3000, fax (617) 221-6899.

Easy access

FindOut! is now available from Open Data Corporation. This data access tool is geared toward business users who lack technical database knowledge and/or experience. Inexperienced users can find their way through this system by asking individual "what if?" questions; MIS professionals can use the tools to build the support applications specific to their users' needs.

This desktop-based client/server software works as a front end to standard databases such as Sybase, Oracle, DB2, Database Manager, and SQL Server. It also features a Business Dictionary Builder, which allows MIS professionals to model a database structure to a user's access needs. A dynamic reporting function enables users to build and modify the reports needed to display and analyze data.

The product is available in two versions: the Analyst and the Builder. Analyst provides tools to access, analyze, and report on data retrieved from multiple databases. Builder enables MIS professionals to build operational decision support systems that map database structures to business terms provided by end users. Analyst is priced at $995; the Builder costs $4,995. Open Data Corporation, 95 Hayden Ave., Lexington, MA 02173-7967, (617) 860-8300, fax (617) 860-8399.



FindOut! provides object oriented tools for automatically creating a business model, a business dictionary, and dynamic reports that capture how business users think about their data.

Desperately SEECing Cobol

SEEC, Inc. has released COBOL Analyst 2.0, a PC-based tool for maintaining COBOL applications in client/server and workgroup environments. The new product features synonym processing for impact analysis, code walk-through (which guides programmers through multiple execution scenarios while recording the paths taken for later analysis), and a DB2 analyzer. The tool provides system-wide and program-level analysis and runs under OS/2 2.0 and later and Windows 3.1 or later. Pricing starts at $1,200; add-ons, such as the code walk-through and DB2 analyzer, are each priced at $495. SEEC, Inc., 5001 Baum Blvd., Pittsburgh, PA 15213, (412) 682-4991, fax (412) 682-4958.

Fax times two

Two new fax applications are currently available from Commetrex Corporation, PowerFax and PowerFax Lan Server. PowerFax is an OS/2 Presentation Manager application for managing, editing, creating, sending, and receiving fax documents. PowerFax LAN Server is a client/server program that extends PowerFax's functions across a LAN. To maintain user privacy and security, faxes can be received into private directories or mailboxes. PowerFax and PowerFax LAN Server pricing is based on the number of lines used; prices range from $149 for a single-line license to $7,500 for a 60-port license. A PowerFax Developer's Toolkit is also available for $995. Commetrex Corporation, One Meca Way, Norcross, GA 30093, (404) 564-5522, fax (404) 564-5649.



Making it with Ipswitch

Ipswitch, Inc. currently is shipping its Developer's Kit Version 1.4 for multiplatform TCP/IP products. The new release, which works in conjunction with C compilers, C Set/2, C/C++ 7.0, and Borland C/C++ 3.1, enables developers to create network application programs for OS/2, DOS, and Windows. The kit includes header files, libraries for large and small model programming, and a make utility. The 32-bit library files for OS/2 programming under C Set/2 include single and multithreaded versions. Sample sources are provided as a guide to using the Ipswitch development environment. Cost: $475. Ipswitch, Inc., 333 North Avenue, Wakefield, MA 01880, (617) 246-1150, fax (617) 245-2975.

News

So close and yet ...

IBM's plan to ship two new versions of OS/2 this year is on track—sort of. As *OS/2 Professional* went to press, a source in Boca Raton, Florida indicated that IBM will likely meet the scheduled August ship date for its latest version of OS/2 for Windows, which for the moment has been dubbed Personal OS/2. While that name has yet to be finalized, many at IBM, including PSP President Lee Reiswig, have suggested that it may well stick. Beta versions of the product were posted on bulletin boards in May, and CD-ROM copies were sent to a select group of developers.

Separately, the same Boca Raton source said that the next full-functioned version of OS/2, codenamed Klingon, is in a holding pattern and will ship either in late Q4, as originally stated by the company, or in Q1 of 1995.

The reason for the delay is two-fold: the threat of Microsoft shipping Chicago this year seems to be fading; and IBM has yet to decide what, if any, features—enhanced security, for example, or beefed-up networking capability—will differentiate Klingon from Personal OS/2.

A SuperSuite deal

Watch for a group of "power applets" assembled from leading OS/2 applications to be shipped this fall by Toronto-based Footprint, the same company that developed Footprint Works for OS/2. The applets, nicknamed SuperSuite, are designed to augment the applets currently included with the OS/2 system. Each Footprint applet is a compact version of a successful productivity tool such as HyperAccess/5 or Relish.

Footprint initially will include 12 components in the suite: a word processor, spreadsheet, database, charting capabilities, a report writer, to-do list, address book, and calendars, as well as a lease calculator, mortgage calculator, mortgage comparison, and a savings planner. The company is targeting fall Comdex for the launch.

PSP presents

Following the record-breaking attendance during the April PSP Interchange in San Francisco, IBM is gearing up for three more Interchanges this year.

Officially, IBM reported that approximately 2,400 attendees, including 100 exhibitors, were present. Insiders, however, put the paid attendance closer to 1,800. Regardless, both IBM and the developer community are excited by the intense interest these events have generated.

PSP is now focusing on three shows scheduled for the fall. The first will be the inaugural OS/2 Technical Update, jointly marketed by IBM and Ziff-Davis Exposition and Conference Company. The Update, scheduled for Sept. 12-16 in the Georgia World Congress Center in Atlanta, will run in conjunction with Networld+Interop, which last year drew some 60,000 people. Just two days after the Update, the European OS/2 Technical Interchange will be staged in Hamburg, Germany. This four-day event will run from Sept. 19-23. The final event for the year is the Canadian OS/2 Technical Interchange, scheduled for Nov. 1-3 in Toronto, Ontario.

Data Dates

September 28-29
LAN Tour '94, *Radisson Plaza Hotel at Rochester Plaza, Rochester, NY.* This free seminar, sponsored by IBM, will focus on OS/2, LAN Server, and LAN NetView. Attendance for this half-day seminar is limited. For further information or to register, call (800) 766-4344.

September 19-22
ServiceTech '94 Service Technology Conference, *Sheraton Tara Hotel, Braintree, MA.* Focuses on issues pertaining to advanced technology in the customer service industry. Three days of lectures and workshops cover three major service technology areas: call management, problem resolution, and telecommunication. Keynote speakers: Mort Rosenthal, president of Corporate Software, and Bob Steinert, vice president of Dataquest Worldwide Services. Registration: $795, with discounts available for early and multiple registrations. (412) 826-1158.

October 3-7
Enterprise Application Development, *Washington Convention Center, Washington, DC.* Five tracks will be available: Enabling Business Process Reengineering, Client/Server Architecture and Database Design, Downsizing and Integrating Legacy Systems, Improving Business Information Access and Delivery, and Enterprise Application Support. Cost: $450 for one day, $995 for all three days, (800) 441-8826.

October 4-6
Re-engineering Your I/S Architecture, *Stouffer Concourse Hotel, Washington, DC.* This three-day seminar conducted by Larry R. DeBoever will focus on client/server and network computing, with an emphasis on IS architecture strategies. Cost: $1,195. Call (508) 470-3880, fax (508) 470-0526. ◆



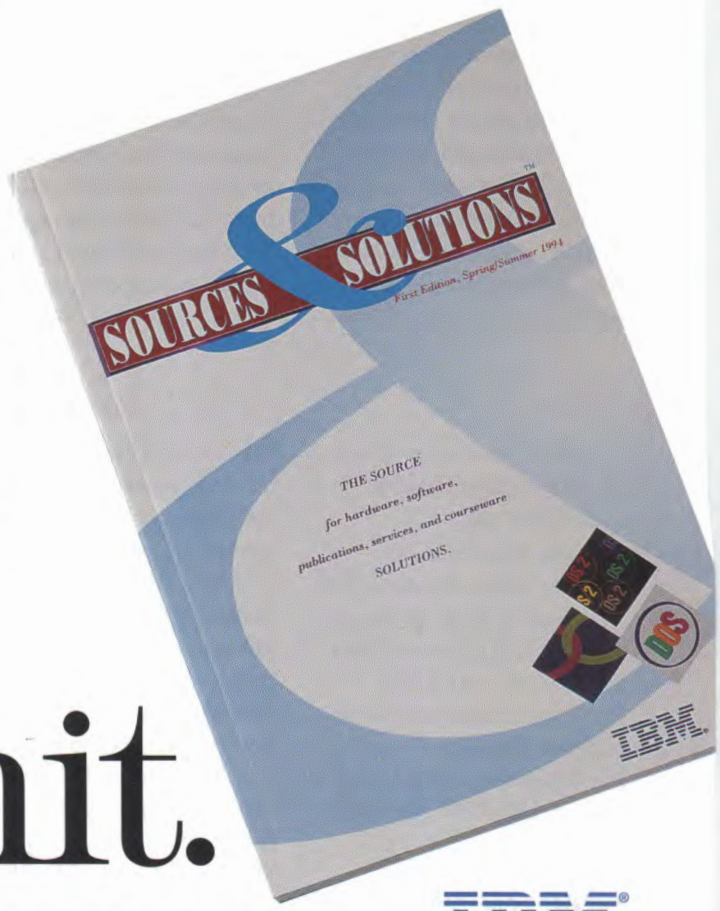
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Circle #64

CODE CACHE

Enhancing CID with REXX

BY BRADLEY D. KLIEWER

The REXX programming language provides a handy resource for extending the functions of IBM's LAN Server CID utility (see Building Your Own: Part 2 on p. 26.). Writing such extensions can prove a bit frustrating at first, though: in addition to debugging problems (which means numerous, slow reboots), you must reference the REXX files in a dynamic environment—the LAN. But with a few swift tips, you can get your CID REXX extensions up to speed in a fraction of the time it would normally require.

First, you must determine which directory your REXX programs will run from. If you've followed the default naming conventions outlined in the Redirected Installation and Configuration Guide (part of the LAN Server documentation), the executable files for OS/2 2.1 will be located in \CID\EXE\V210. Typically, the CID server maps the \CID directory to drive X: on the client machine. Thus, when you boot a new system from the CID install disks, it will read programs from X:\EXE\V210.

You can confirm the directory location by reading the CID Utility REXX Command file (default location: \CID\CLIENT). The .CMD file is named after the workstation name. For example, when we boot CID, we use IFSETUP as the workstation name, so our CID REXX file is \CID\CLIENT\IFSETUP.CMD.

Look for the exepath assignment in the command file. In ours, the line reads:

exepath = 'X:\EXE\V210'

thus confirming that \CID\EXE\V210 acts as the source directory for CID utility programs.

REXX uses exepath (and other related directory names) as substitution text within the CID REXX program. You will find two key areas that use this substitution text, the Product Data Section and the Install Section—the former cascades its substitutions into the latter.

Registering Your Program

Listing 1 shows a sample entry from the Product Data Section (in fact, it's the entry for the partitioning REXX

LISTING 1

The tail end of the Product Data Section

```
x.if_fdisk=14          /* structure index */
x.14.name='IF FDISK'   /* product name  */
x.14.statevar=''       /* state variable name */
x.14.instprog=exepath || '\if_fdisk ' || exepath
        /* fully qualified install program name */
x.14.rspdir=os2rsp /* response file directory */
x.14.default=''     /* default response file name */

/*-------------------------------------------------------------*/
/*       NUMBER OF PROGRAMS SET UP IN THE       */
/*             PRODUCT DATA SECTION             */
/*-------------------------------------------------------------*/
NUM_INSTALL_PROGS = 14
```

LISTING 2

The IF_FDISK partitioning program

```
/* STANDARD IF COMPUTER MEDIA FDISK SETUP */
Arg exepath
exepath"\fdisk /query | "exepath"\RXQUEUE /LIFO"
    /* PUT CURRENT PARTITION CONFIGURATION IN
    ** A REXX QUEUE */
FDRC=RC          /* FDISK RETURN CODE */
RetCode=0        /* SET DEFAULT RETURN CODE */
FDLines=QUEUED()
DO WHILE QUEUED()>0 Then
   IF FDRC=0 Then PULL Qdata
End
/* IF NO PARTITIONS WERE DEFINED, THE QUERY WILL
** RETURN 5 LINES (ADDITIONAL LINES INDICATE PARTITION
** DATA). ALSO MAKE SURE FDISK /QUERY WORKED (CHECK FDRC)
*/
IF (FDLines<=5) & (FDRC=0) Then
   Do
      exepath"\fdisk /query /vtype:3 | "exepath"\RXQUEUE
              /LIFO"   /* List partitions of free space */
     FDUlines=QUEUED()
     FDRC=RC
```

```
    /* IF NUMBER OF FREE PARTITIONS = TOTAL PARTITIONS,
    ** THE DRIVE HAS NO ALLOCATED PARTITIONS */
    /* THIS ADDITIONAL CHECK WILL HELP INSURE AGAINST
    ** CHANGES IN THE FDISK REPORT FORMAT WITH NEW
    ** VERSIONS OF OS/2 */
    IF (FDRC=0) & (FDUlines=FDLines) Then
      /* CREATE BOOT MANAGER PARTITION AT END OF DRIVE */
       exepath"\fdisk /create /disk:1 /bootmgr /start:b"
    Say "Bootmanager Return Code: " RC
    IF (RC\=0) & (FDUlines=FDLines) Then
       /* USE IF.PAR RESPONSE FILE TO CREATE DOS
       ** AND OS/2 BOOT PARTITIONS */
       exepath"\fdisk /file:"exepath"\if.par"
    Say "    " RC
    IF (RC=0) & (FDUlines=FDLines) Then
       /* CREATE DATA (EXTENDED) PARTITION FROM REMAINING
             SPACE */
      exepath"\fdisk /create /vtype:2 /disk:1 /start:t"
     Say "    " RC
     IF (RC=0) Then RetCode=X2D(FE00,4)
          /* REPARTIONED—REQUIRE REBOOT VIA RETURN CODE
      */  ELSE
           Do
              RetCode=X2D(1604,4)
                 /* UNEXPECTED CONDITION */
        End /* Else */
   End /* Do */
   ELSE
      RetCode=0     /* PARTITIONS ARE ALREADY FORMATTED */
DO WHILE QUEUED()>0 Then
   /* CLEAR THE REXX QUEUE */
   PULL Qdata
End
Say "IFFDISK Return Code: " RetCode
Return RetCode
```

LISTING 3

The IF.PAR partition information file

```
/query
/create:OS/2,/VTYPE:1,/BOOTABLE:1,/DISK:1,/START:t,/SIZE:120
/create:DOS,/VTYPE:1,/BOOTABLE:1,/DISK:1,/START:t,/SIZE:5
```

LISTING 4

A portion from the Install Section

```
when OVERALL_STATE = 1 then do
```

script we will be developing). Before adding the if_fdisk entry, the Product Data section already had 13 entries. Thus, I simply tacked on the new entry as the last (and changed the NUM_INSTALL_PROGS to match the new number of entries).

The Install Section uses the name (x.if_fdisk) as a compound variable—a conversion into something like an array index (in this case, the index is 14). As REXX converts the x.if_fdisk prefix to x.14, the CID procedures reference the associated variables (e.g.: x.14.name, x.14.statevar).

Note that the if_fdisk entry does not need statevar (state variable) or default (response file) entries—it simply leaves the variables blank.

The most important variable when adding your own REXX CID routine, instprog, simply passes a command to the operating system. This is where the exepath variable comes into play—add exepath to the beginning of the command line and append any additional parameters. In the example entry, the IF_DISK.CMD REXX program takes a path name parameter (the parameter tells where to look for the if.par partition information file. For simplicity's sake, the partition file also resides in the exepath directory. Thus, you see an entry for the program name which reads:

```
exepath || '\if_fdisk ' || exepath
```

and expands to:

```
X:\CID\EXE\V210\if_fdisk X:\CID\EXE\V210
```

The concatenation operation (||) allows spaces between portions of the string without including those spaces within the final string. This improves readability of the expression, while preventing spaces that would cause errors. Of course, you must then include spaces within the string (after if_fdisk, for example) wherever a space is required in the result.

After registering your program in the Product Data Section, you set the execution order in the Install Section. Before looking at the Install Section, however, you should first understand the operation of the CID-enabled application (in this case, the IF_FDISK partitioning program).

The Partitioning Program

Most OS/2 installers are familiar with the full-screen FDISK interface or graphical FDISKPM interface. While useful for interactive partition definition, such

user-oriented designs do not lend themselves to automation. IBM wisely includes command driven options for FDISK, although the commands are a bit quirky and not well documented. REXX provides a handy utility for working around those quirks while adding new functions.

The IF_FDISK REXX program in Listing 2 takes the path parameter passed by the CID utility, reads the IF.PAR partition information file, and returns a code indicating the success (or failure) of the operation.

The return codes match those expected by the CID utility. FDISK is a rather unusual program—you must reboot the system before using the newly partitioned disk. Next, you must notify CID whether a reboot is required. While the code list that CID can handle is extensive (and documented in the Redirected Installation Guide), we need handle only three cases.

The hexadecimal code FE00 tells CID that the operation was successful and a reboot is required, and this is the code we would normally expect on a fresh installation. If the disk has already been partitioned, we want the system to continue without rebooting by returning code 0 (this allows manual partitioning for special needs before running CID). The final case, that some problem occurred and installation should halt, is handled by a return code of 1604 (also hexadecimal).

IF_FDISK handles its first chore, retrieving the directory name, by calling the REXX **Arg** function. This returns parameters typed on the command line to the variables named after **Arg**.

Note that throughout the IF_FDISK program, we use abuttal (rather than the || concatenation operator) to build strings. With such constructs, you must not add any spaces that should not appear in the final command passed to OS/2—this leads to unattractive, but compact, source code. (The choice of abuttal vs. concatenation was entirely arbitrary; in this case it simply demonstrates the plethora of options available with REXX.)

Throughout the IF_FDISK program, we must convert FDISK return codes to information that is meaningful to our tasks and (in the end) the CID program. The first FDISK command (FDISK /QUERY) returns the current partition information. Note that FDISK.EXE resides in exepath—you must copy the program from C:\OS2 to the exepath directory when setting up your CID directories. FDISK returns 0 if the query worked, but that won't tell you

```
  configsysold = configsys
       /* Fully qualified path to CONFIG.SYS */
  if IsBootDriveRemovable() == 1 then do
         /* If the drive booted from is floppy */
     configsys = 'A:\CONFIG.SYS'
     say "Config changed to " || configsys
  end
  if RunInstall(x.if_fdisk) == BAD_RC then exit
  Call CheckBoot
  configsys = configsysold
     /* Fully qualified path to CONFIG.SYS */
  say "Config changed back to " || configsys
end
```

LISTING 5

Additional statements from the Install Section

```
    when OVERALL_STATE = 2 then do
      if RunInstall(x.if_fmt)  == BAD_RC then exit
      if RunInstall(x.if_copy)  == BAD_RC then exit
      if RunInstall(x.seinst)   == BAD_RC then exit
/* Install operating system     */
      if RunInstall(x.laps)     == BAD_RC then exit
/* Install LAPS                 */
      if RunInstall(x.thinifs)  == BAD_RC then exit
/* Install SRVIFS requester     */
      if RunInstall(x.casinstl) == BAD_RC then exit
/* Install LCU                  */
      if RunInstall(x.if_scfg)  == BAD_RC then exit
      Call CheckBoot
/* Reboot if it was requested   */
    end
```

LISTING 6

The IF_FMT REXX program

```
/* REXX Initial Format */
arg exepath
cd exepath
drive=left(exepath,2)
drive
'type fmt.ans|'exepath'\format D: /FS:HPFS /V:DATA'
'type fmt.ans|'exepath'\format C: /FS:HPFS /V:OS2'
RETURN 0
```

anything about the partitions (if any exist).

Instead, we piped the FDISK output to the RxQueue (for more information about RxQueue, see February's Code Cache). As with FDISK.EXE, you must also copy RXQUEUE.EXE to the exepath directory. If the partition is empty, FDISK should return five lines to the queue—an assumption based on OS/2 2.1, which returns blank lines in addition to listing one empty partition.

To guard against future changes to FDISK (such as a more compact query report), IF_FDISK accepts fewer than five lines and compares the results to a query for empty partitions. If the two report lengths match, IF_FDISK continues.

The program uses FDISK to create a boot manager partition, two bootable partitions (see Listing 3, which includes parameters for a 5mb DOS and a 120mb OS/2 partition), and finally converts all remaining free space into a data partition. This strategy lets IF_FDISK work with any hard disk large enough to hold the three fixed-size partitions (126mb), although we recommend at least a 300mb hard disk for this configuration.

After each partitioning step, IF_FDISK checks the return code and reports the code via the REXX **Say** instruction. Note that FDISK returns a non-zero code for successful boot manager partitioning and a zero code for all other partitioning (conditions easily handled with a few REXX conditional branches).

After determining the proper CID return code (0, 1604, or FE00), IF_DISK converts the hexadecimal code to its decimal equivalent through the REXX X2D function. IF_DISK completes its operations by flushing the queue and returning the appropriate decimal code.

The Install Section

Finally, it's time to tell CID how IF_FDISK integrates with the other installation procedures. Listing 4 shows the portion of the Install Section that deals with IF_FDISK. The Install section breaks the process into distinct stages called *States*. Each state group is followed by an optional call for reboot.

By default, CID starts with OVERALL_STATE set to 0. The state can be set through a setting in CONFIG.SYS (e.g. SET CAS_STATE=2) or within the REXX program (by calling **Iterate** to advance the state by one).

State 0 executes if CID starts from a hard disk (it prepares the disk for CID boot and restoration after CID finishes). Normally, CID starts from a diskette and immediately advances to State 1, which prepares the disk for the operating system, reboots (if necessary), and completes the installation process. Typically, you would place additions to the process within this state setting (such as our D: drive formatting and custom file transfers).

However, FDISK requires special handling—the system must reboot *before* running through the normal State 1 operations. So, we changed State 1 to State 2 and added the new State 1 shown in Listing 4.

Our new State 1 required a few other adjustments. Normally, CID uses the hard disk as the logging device (the installation process logs all operations and adjusts CONFIG.SYS as needed).

Of course, the disk has not been formatted after the custom partitioning and an attempt to write to the disk will fail. So, we first change the configsys setting to drive A, run the partitioning program, check for a reboot, and restore the configsys setting. The restoration step is necessary should the disk already be partitioned (which forces CID to the next state without a reboot).

This process suffers two minor problems. First, you must manually reboot the system (and ignore OS/2's prompt to remove the diskette). Second, because CID records the system state in A:\CONFIG.SYS, you must remove the state information before using the CID diskettes on another system. We simply keep a backup copy of CONFIG.SYS (called CONFIG.RST) on the diskette. After completing the full installation, we place the diskette back in the drive and type:

COPY A:\CONFIG.RST A:\CONFIG.SYS

which works fine, so long as you remember to make the change. At some point, we may automate this stage (by writing a routine to the newly configured system's STARTUP.CMD file).

In Sum

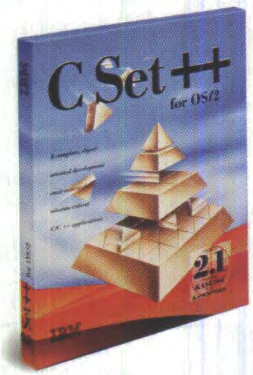
Building the custom partitions is by far the most awkward modification we have made to the CID process. In contrast, the other changes are fairly minor. Listing 5 shows the State 2 settings—the only modifications to the IBM settings are the state number (now 2 instead of 1) and the addition of two REXX programs, IF_FMT and IF_COPY. Even the REXX programs themselves are models of simplicity: grab a directory, execute a command, and return 0 to CID (see listing 6 for the IF_FMT REXX program).

You can configure many of the typical installation features (such as destination drives, subsystem selections, and utility program) through the response file in \CID\RSP\OS2V21. The entries in the response file correspond to the setup screen selections you would normally set during a diskette or CD-ROM install process. Only when an option does not appear in the response file should you turn to the CID extension procedures outlined here. But when you need to automate an unusual installation configuration, a little REXX knowledge (and a bit of persistence) can make your life a lot simpler. ◆

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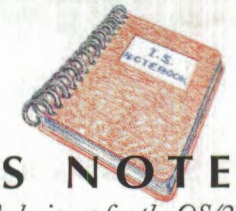
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Get the FAQs

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BY GORDON SCOTT

Power has its price. OS/2 brings power to your department's desktops, but not to everyone equally. One place where the price of innovation is often paid is in learning time. Early adopters pay this price through tinkering and self-study, while later adopters tend to favor formal classroom training.

Classroom training too has its downside. It may be too general to cover one's specific needs and too expensive to tailor beyond the introductory material. But, what if your company could transfer some of the early adopters' expertise to those now starting with OS/2?

Of course the training method must provide information that's specific and relevant to new users. It must also be simple to implement and update, so that the resident experts don't sap their productivity by participating.

One approach you might consider is the use of a FAQ (Frequently Asked Questions) file. A FAQ file consists of questions asked by new users and answered by experienced users. Such files are often seen on Internet FTP sites. These files provide a way for experienced users to blaze a trail for new users. The questions and answers accrue over time with continual updates at the experts' convenience.

Three suggestions for creating and managing a FAQ file follow.

Compile a FAQ file for department members new to OS/2 by starting with existing questions and answers about OS/2.

- Collect a general FAQ file (such as Timothy Sipples' OS/2 FAQ).
- Collect FAQ files more specific to your department's needs.
- Add information unique to your department's needs.
- Make it available on a network or on diskette as a flat text file.
- Create a REXX command file to view the text file in the OS/2 system editor.

This kind of arrangement could provide a gold mine of resources to new users who run into a problem using OS/2. Here's one scenario:

The OS/2 expert in your department collects the questions and answers and adds information specific to your department where necessary.

The expert puts the file on diskette (or on the LAN) and provides a simple way to view the file—through a command file or a simple text editor. When a new user has a question, he or she checks the file. If the answer isn't in the file, the user adds the new question to the file. The user and support personnel then seek out the answer by whatever means available (manuals, on-line help, OS/2 books, or other OS/2 users), and when they get an answer they add it to the FAQ.

Every month or so, the keeper of the OS/2 FAQ file collects new questions and answers from the various departments and then updates the FAQ file by merging the various sources. Keeping the file in text format offers the advantage of easily updating and distributing the information. To make a change or addition, the user simply types it in.

Note to Internet users: Timothy Sipples' OS/2 FAQ file is available at FTP-OS2.CDROM.COM in the /pub-/os2/all/info/faq directory as faq21e.zip.

Use the Windows Help manager as an information delivery system for the FAQ file.

- Collect all the needed FAQ information.
- Use a Windows Help authoring tool to format the FAQ.
- Distribute a batch file to start WINHELP.EXE with the formatted FAQ.

Formatting the FAQ in an on-line presentation format like Windows Help files provides a more convenient method for finding information than a simple text file—particularly if the file becomes large and difficult to organize in a meaningful way. Although WINHELP.EXE was designed for on-line help in products, it has features that make it adaptable to a corporate information source.

First, like any on-line presentation program it provides efficient use of the text window. The text always wraps to fit any size window (so you always see an entire line without horizontal scrolling). As a result, you can still read the file under a variety of configurations.

Second, WINHELP has annotation and bookmark features. These make it easy for users to add new questions and later find their way back to add answers.

When the resident OS/2 expert wants to update the FAQ file, all he or she needs to do is collect the .ANN files. These files contain all of the annotations each individual user creates, thus simplifying the compilation process.

Windows' Help is based on RTF formatted files. RTF stands for Rich Text Format, and implies a more-or-less standard style for marking formatting

elements in a text files. Manually marking an RTF file is not a pleasant experience. But there are four products that reduce the tedium. The four products, ROBOHelp, DocHelp, ForHelp, and WSYI-Help, take different approaches to Windows Help authoring.

The first two use a word processor as their base authoring tool, and export the output to RTF. The author then uses the Windows Help compiler to convert the RTF file into the .HLP format used by WINHELP.

ForHelp and WYSI-Help create their own authoring environments for more powerful integration between the initially formatted document and the final .HLP file. Additionally, WYSI-Help includes a new feature that lets the author specify context-sensitive associations to Windows products through point-and-click procedures.

All four of these tools are fairly inexpensive and take very little time to learn. For those developing on-line information in Windows Help RTF formats, one of these tools is a must.

Use IPF (OS/2's on-line information viewer) as an information delivery system for the FAQ file.

- Collect existing FAQ information (Timothy Sipples' FAQ comes in both text and IPF format).
- Use an IPF authoring tool to format your department-specific part of the FAQ.
- Distribute the IPF formatted file to your OS/2 users.

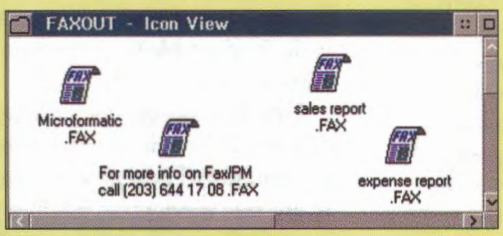
When working in an OS/2 environment, it is much easier to read, search through, and retrieve information from a FAQ file in IPF than with any other format. Users who have the choice of text or the IPF format will regularly choose IPF.

IPF is one of the hidden treasures in OS/2. It has its limitations (most notably, it lacks WINHELP's annotation feature) but its strengths often more than compensate.

The IPF format is far simpler than RTF [see Code Cache, May 1993 for details on writing IPF files]. The IPF viewer that comes with OS/2 starts files in the *.INF file type. From these files, the IPF VIEW program can launch any other OS/2 program, or even work with .DLL files under certain conditions.

With IPF, you can link files to external sources. For example, to further enhance the environment, the FAQ file can start the OS/2 editor whenever the user wants to create a new question. The text of these questions can be gathered and compiled into a newer version of the FAQ with minimal effort.

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Taking this a step further, the FAQ file could start the program or process explained in the currently displayed section. Though WINHELP.EXE has the ability to start programs, it can start only Windows or DOS programs, not OS/2 programs. VIEW.EXE would allow your INF file to start any program that runs from an OS/2 command line: DOS, Windows, or OS/2.

Until recently, authoring tools for IPF consisted of Windows authoring tools that converted RTF to IPF format. In June, IBM began selling Hyperwise, a 32-bit native OS/2 application for authoring .IPF format files. An internal IBM study showed that using Hyperwise instead of working directly on IPF tag-language files reduced the development time by 50 percent.

Hyperwise makes it easy for one OS/2 expert in your company to rapidly generate easy to use on-line information about OS/2. If your department has MMPM/2 installed, IPF can include audio and video information through Hyperwise's new features.

Make OS/2 FAQ files available over a LAN.

- Place all FAQ files (in your chosen format) on a public LAN directory.
- Instruct new users to place questions in files on the public directory.
- Let more knowledgeable users answer the questions and then have those questions and answers added to the FAQ files periodically.

Of course this doesn't work unless your department has a LAN in place that is accessible by all. But if your company is large enough to benefit from these suggestions, you probably have some kind of interconnection more capable than sneakernet. The idea here is to use that connection to make FAQ information easy to access, and also make the questions easy to retrieve.

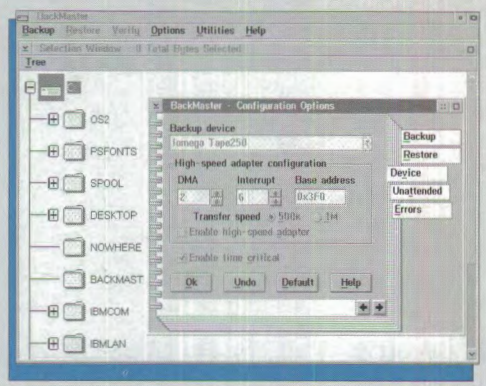
If you have LAN access, you might consider an additional information resource. OS/2 CD-ROMs are available from software stores or by mail order (including *OS/2 Express*), and contain a wide collection of resources including news, tips and programs. A CD-ROM reader (or better yet, a multiple-CD changer) on the LAN would provide a broad base of support that you could then enhance with interactive files of your own. ◆

Gordon Scott works for the Software Solutions division of IBM located in San Jose, California. Gordon can be reached via Internet by sending e-mail to gscott @ stlvm22.vnet.ibm.com.

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continued from page 13

Yanoff [yanoff@csd4.csd.uwm.edu] is mentioned frequently in the new invasion of "how-to" Internet books. It is a gem of a resource and will help the curious novice navigate the Information Go-Cart Track. Chess servers, FAX via Internet, Ham radio callbooks and earthquake information are just some of the diverse places-to-go listed. It can be retrieved by FTP:ftp.csd.uwm.-edu (pub/inet.services.txt), Usenet: alt.internet.services, comp.answers and biz.comp.services to name a few. FINGER yanoff@csd4.-csd.uwm.edu shows all the ways you can obtain it. The next resource I found is listed too.

THE INTERNET MALL, SHOPPING ON THE INFORMATION SUPERHIGHWAY is a list maintained by Dave Taylor [taylor@netcom.com]. It is sure to cater to the new breed of commercial Net users. Stores are arranged by departments and floors. Everything from perfume to books on C can be purchased without leaving your hunchbacked state. Anyone with Internet e-mail access can obtain it by e-mail: taylor@netcom.com with a subject of send mall. FINGER taylor@netcom.-com will show you how to locate this on-line shopper's guide.

Steven Durfee
via the Internet

The customers will decide

I usually nod in agreement while reading Zachmann's View, but in his May column William Zachmann was way off the mark. If IBM took Zachmann's advice, they would be repeating the same mistakes again. He calls IBM's Power Personal Systems Division's decision to offer the PowerPC with Windows NT "treacherous." Zachmann believes that PowerPC should only be bundled with IBM's Workplace OS.

IBM's size and diversity in the computer industry is both a blessing and a curse. No other computer company produces such a range of hardware and software across the entire industry. It is often likely that one IBM product will cannabilize sales of another IBM product.

IBM cannot ignore the marketplace as the final arbiter of what sells and what doesn't. In the past, it tried. IBM should never again make artificial decisions on the basis of favoring one of its technologies over another. IBM must also recognize that PC technology is more open than other platforms IBM sells. It can no longer assume buyers of its PC hardware must also buy its operating system.

Therefore, the question is, can IBM sell as many PowerPCs if it offers only the Workplace OS as opposed to also offering the Windows NT alternative? IBM should not cut off a leg of its

continued on page 69

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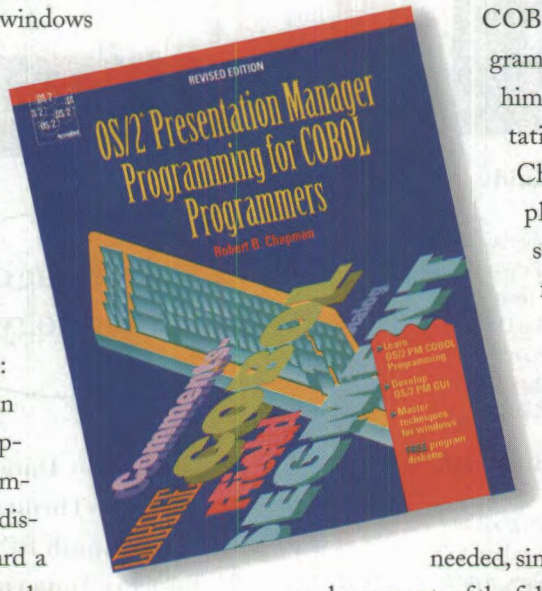
OS/2 Presentation Manager Programming for COBOL Programmers

by Robert B. Chapman, John Wiley & Sons, Inc., 494 pages, $39.95

REVIEWED BY LANCE B. ELIOT

Can OS/2 and COBOL get along? They can, and they do. Indeed, Robert Chapman's excellent introduction to the use of Presentation Manager via COBOL coding is a sure fire method of getting those mainframe programmers into shape for writing GUI-fantastic applications under OS/2.

Written with a true COBOL programmer's perspective, this 13-chapter book is jammed with bite-sized examples of calling OS/2 windowing features to make COBOL programs more user friendly. Starting with the basics of doing windows in OS/2, the material progresses to cover list boxes, combo boxes, radio buttons, and various other creatures of the windowing world.



Most programmers tend to learn by example. Chapman notes that he also prefers the old "this is a wrench" technique of the Army, similar to learning by example, and that's how he proceeds: showing an example, explaining it, and then moving on to the next. Fortunately, Chapman's book is different from many programming books in which the examples are disjointed and do not obviously work toward a cohesive whole; he links together the examples and gradually builds a "large" program containing a variety of smaller examples.

For COBOL programmers, the word "large" usually means a program with thousands of lines of code. Here, the largest program offered is in the neighborhood of 100 lines, and thus programmers seeking waves of code may be disappointed. But keep in mind that the intent of this book is to show the guts of doing graphical interfaces, and only those routines needed to perform GUI work are actually shown.

A smart aleck COBOL programmer may think that programming a windows environment will involve a simple CALL to a handy library routine. Chapman dispels any such thoughts by showing a variation on the classic "HelloWorld" program, and spends an entire chapter walking through the several dozen lines that it takes to make OS/2 display "Hello COBOL Programmer" in a usable window.

In fact, if you do know a nose-in-the-air COBOL programmer who figures all programming is a simple IF statement or two, let him or her get mired in doing OS/2 Presentation Manager calls and error trapping. Chapman does a nice job making the complex dealings of Presentation Manager seem simple, but inevitably the code gets fairly twisty and complicated—it's the nature of the beast when working with multiple-window, user friendly kinds of screens and mousing.

A floppy disk containing COBOL code excerpts is provided with the book. The disk will definitely be needed, since the code listings shown in the book are only segments of the full code (Chapman warns you that he wants to walk through snippets rather than waste pages of the book with lengthy and potentially repetitive code listings). An interested reader can look at the code in his or her favorite text editor or actually run the programs. If you want to try changing the code and re-compiling it, you will need Micro Focus COBOL/2 (version 2.4.36 or above). Commands to invoke the compiler are noted throughout the book.

Toward the end of the book there are tips on building help into your GUI interface (using OS/2's own help subsystem), and some

material on using SQL and converting your code into a DLL for possible reuse. These latter chapters are rather brief and will mainly give a COBOL programmer a taste of future explorations that will have to be done elsewhere.

All of which means you can drop this book on the desk of an unsuspecting COBOL programmer and likely point him or her toward the beginnings of doing graphical applications in OS/2. Chapman combines COBOL horror tales with clever witticisms to make learning Presentation Manager fairly painless.

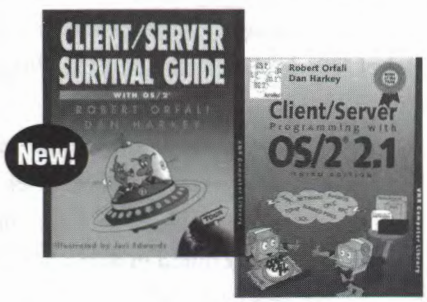
Chapman's approach is to offer a powerful tool for the sensible programmer to use. What he doesn't do is offer insights into how best to design GUI interfaces. A 14th chapter on good GUI design would have been a nice added touch to this otherwise solid book. In any case, I urge COBOL programmers who aren't yet coding in the 20th century to wake up and read Chapman's tales on the inner sanctum of COBOL and Presentation Manager. It might just save you your job. ◆

Lance B. Eliot is an IT consultant and freelance writer based in Southern California. He can be reached on CompuServe at 71213, 372.

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hardware division to provide a crutch to its software division. In the end, IBM's customers will decide if the Workplace OS prospers. IBM should worry about making money and not care which products provide the profit. If IBM wants Workplace OS to succeed then it should concentrate on ensuring a supply of native drivers and quality desktop applications, something that OS/2 now lacks.

Roger Stern
Staten Island, New York

Re-Stacker

The "disappointed Stacker" in your April issue [Input] had experiences similar to mine in using Stacker for OS/2 on an IBM ThinkPad 720C. After several disk thrashings (done by the computer, not me), I stopped trying to stack the entire hard disk. Instead, I installed all the basic tools (DOS, OS/2, Windows, 4DOS...) before using Stacker. Then I subtracted 10mb from the disk space left and only allowed Stacker to create a compressed drive using that much free space. This configuration has run without fail for months. It should be noted that I often must boot back to DOS in order to run tools like MathCAD (MathCAD 5 uses WIN32 DLLs).

This appears to be a problem peculiar to ThinkPad. My Compudyne 4SC/25 has worked fine no matter how I stacked the disk. There are several possible factors why the entire disk can't be compressed on the ThinkPad. The most likely is in using the power management features that turn off the hard disk.

Scott Maley
via CompuServe

In praise of OS/2

I really appreciate your magazine, especially your last two or three issues. I'm very glad I decided to subscribe.

I've only been an occasional OS/2 user over the last five years, but I recently realized that it has been weeks since I dual-booted to DOS. This is mainly because of the improvements in OS/2 version 2.1 and Gwinn's new shareware serial support package SIO.SYS.

I also use OS/2 full-time now because of my discovery of IBM's TCP/ICP for OS/2 and NTS/2. These products allow NetWare Requestor and TCP/IP client/server to run over one 3Com adaptor (or a token ring adaptor) without any noticeable performance penalty. Don't try it without at least 16mb of RAM, but with enough memory you get all the functionality and minimal impact on your system.

Recently, I've caught myself recommending OS/2 to others again and they're listening! Before OS/2 2.1, I was often embarrassed to be a user, but no longer. The product is still a pain to install, but once installed it's great! Thanks IBM for sticking it out.

Andy May
via CompuServe ◆

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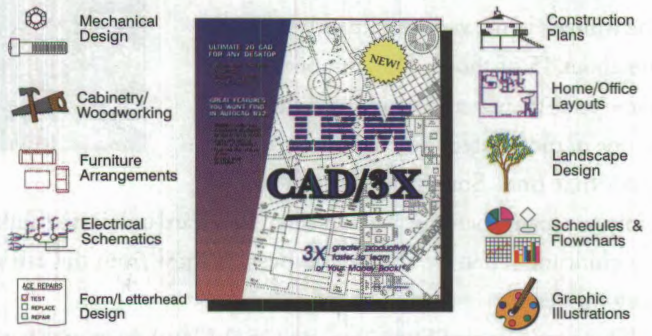
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THE VIEW FROM CHAOS MANOR

Half a Dream

BY JERRY POURNELLE

If you go to Comdex—probably the most important trade shows of the industry—you very likely know that the Best of Comdex awards are chosen by the *BYTE* editors and awarded jointly by *BYTE* and The Interface Group that puts on Comdex. This year the award for Most Significant Technology at Comdex went to OS/2 Lite, also known as OS/2 for Laptops, and sometimes known under the code name *Warp*.

This wasn't done lightly. We began the selection meeting at 0700 Wednesday morning, and we were finished at 1530, one hour before the awards were to be presented. That's more than eight hours that 16 *BYTE* editors debated those awards.



I've always believed these to be the most valuable meetings I attend each year. We consider these awards a big deal, and we take them very seriously; and being *BYTE*, we pay very close attention to the "most significant technology" award.

The Best of Show awards are chosen from the winners in the various categories. There are about 15 of those. The number varies: some years there may be nothing significant in one or more categories, in which case we drop that one. Sometimes we add one. However many there are, we don't give the award unless we think it significant. Then we choose the Best of Show from the category winners.

This year's Best of Show went to OS/2 Lite. I guarantee you we didn't do that lightly. What this award says is that the *BYTE* editors think OS/2 Lite was the one thing you must not miss seeing at Spring Comdex. I presented that award, and I had no qualms about it. You can read the technical details elsewhere, but OS/2 Lite was an impressive achievement.

A few cautions. First, as I write this I don't have Warp running here at Chaos Manor. I did perform some field tests at Comdex, including making it run a Windows application, but I haven't put it through the wringer. Second, Warp is OS/2 for Windows, so you'll need your own Windows 3.1 if you want to run Windows apps.

The most significant caution is that this wasn't a head to head contest with Chicago. Although Bill Gates showed parts of Chicago in his keynote address, and there were a number of machines running Chicago out on the show room floor, officially Chicago has not been announced. Warp, on the other hand, was the subject of an IBM press conference, and was given a product name as well as a code name.

I don't know what would have happened if this had been OS/2 vs. Chicago. I know IBM wasn't afraid: some of the IBM people were wearing shirts with the motto "Chicago—Been there, done that."

I do know that if IBM can get OS/2 Lite in final shipping version fairly soon it will have won significant points in the OS wars. Meanwhile, you should get the beta version.

There's still the problem of marketing, and my experiences trying to find among the hundreds at the IBM booth someone who would fill out the product nomination form hasn't relieved my anxieties. (It's my nomination, but I always make the vendor fill out the forms; that way I know everything is accurate. No one at IBM would do it.)

On the other hand I keep hearing rumors that this time IBM is going to do it right.

Last month you may recall that I dreamed I had a new version of OS/2 bundled with a new IBM desktop, and that OS/2 would run on portables.

I got half of that at Comdex. They tell me the rest is in the works. That sure would be nice. ◆

You can download a copy of the OS/2 for Windows beta from CompuServe (GO OS2BETA). You also can order a copy on CD-ROM from IBM for $14.95 plus tax by calling (800) 251-2177.

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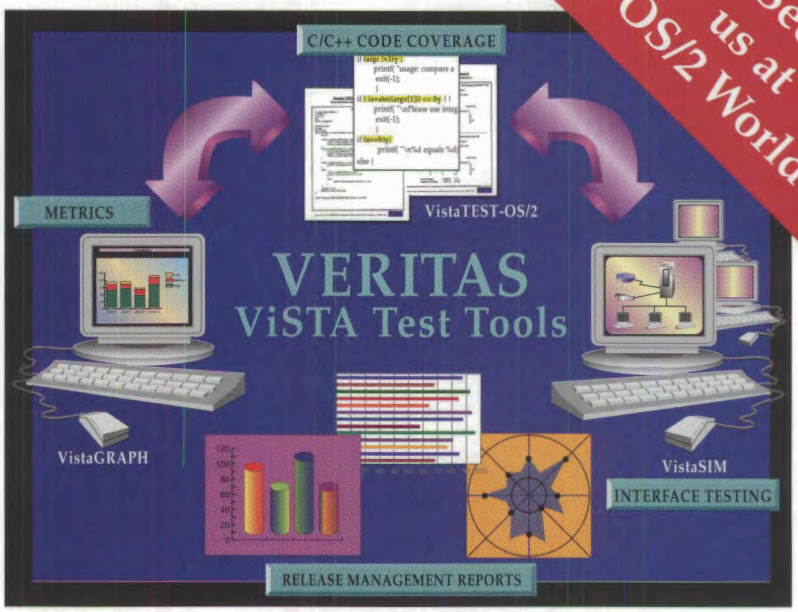
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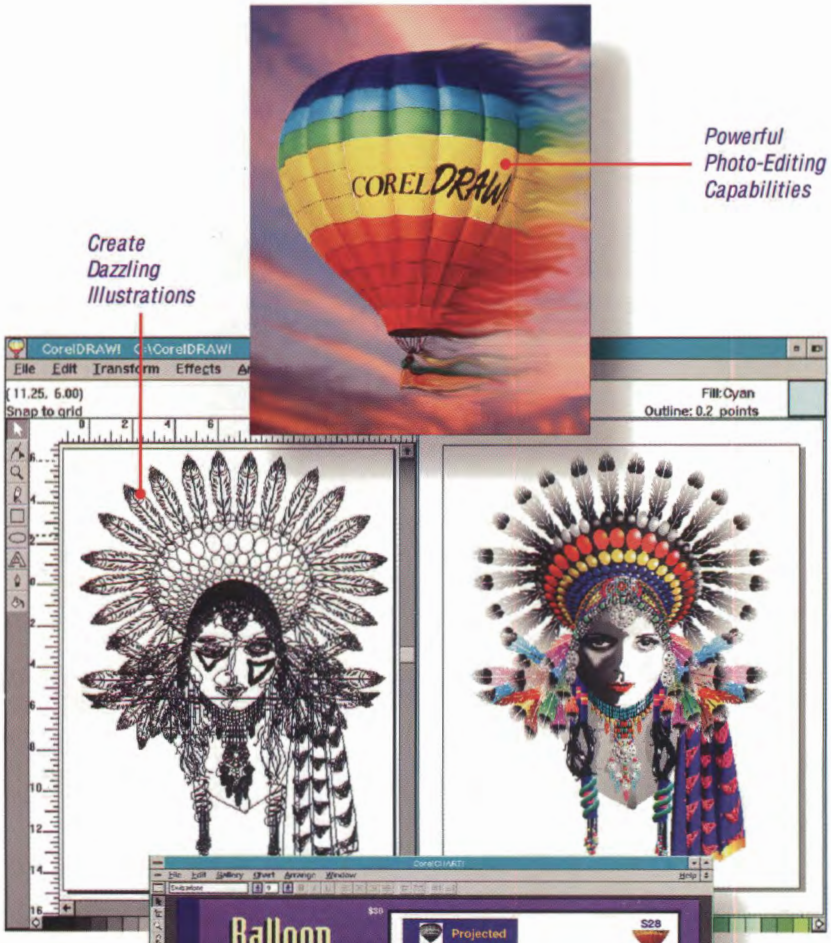
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